

## ***6 Conclusions and Recommendations***

---



## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 RECOMMENDED MITIGATION AND MONITORING PROGRAM**

A review of the information provided by the Project Applicant and further developed from data requests, scoping and literature research, and alternatives analysis shows that the Project would result in both short and long-term adverse impacts.

The Project's potential construction impacts would be short-term, and after mitigation measures are implemented, most of the impacts would be reduced to below their significance criteria. Significant and unavoidable impacts during construction would be offshore noise impacts, and onshore air quality, noise, vibration, and transportation impacts.

While most of the Project impacts during the operation phase would be reduced to below their significance criteria with implementation of mitigation measures, long-term, unmitigable significant impacts would remain for public safety, aesthetics, agricultural and soils, air quality, marine biology, noise, recreation impacts, water quality, and short-term unmitigable significant impacts would remain for transportation.

Table 6.1-1 presents a summary of the Project's impacts and the mitigation measures identified to avoid or reduce each impact, the location of the impact, the agencies responsible for monitoring each of the mitigation requirements, and the timing of the mitigation. This summary table is the basis for the Mitigation Monitoring Program, which would be implemented to ensure that each mitigation measure is incorporated into Project construction, operation, and maintenance activities.

Table 6.1-1 Mitigation Monitoring Program				
Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>PUBLIC SAFETY (Section 4.2)</b>				
<b>FSRU</b>				
<p><b>PS-1:</b> <i>Potential Minor Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier</i></p> <p>An incident at the FSRU or LNG carrier due to human error, upsets, or equipment failures, or as a result of natural phenomena (severe wave conditions, high winds, etc.) could cause a release of LNG from the FSRU or an LNG carrier. (Class II)</p>	<p><b>AM PS-1a. Applicant Engineering and Project Execution Process.</b> Regardless of any less stringent regulatory requirements, the Applicant would undertake the following steps to design, build, and operate the proposed Project:</p> <ol style="list-style-type: none"> <li>1. Prior to final project internal funding, undertake a full Front End Engineering Design (FEED) exercise with a suitably qualified and experienced contractor under the management of an Applicant technical team. This would define the engineering requirements for the complete Project and identify sources for all remaining detailed information and data, to be ready for internal Project sanction and final detailed engineering.</li> <li>2. Undertake a comprehensive offshore site survey to determine bathymetry, geology, and geotechnical characteristics of the area in and immediately around the locations of each element of the Project. This would require mobilization of specialized marine vessels and crews to perform the acoustic surveying and soil coring for the shallow water horizontal directional boring (HDB) of the pipelines crossing under the beach to the FSRU mooring in deep water. The survey results would provide additional information for the final detailed design of the HDB, pipelines, cable crossings, pipeline end manifolds, and mooring system anchors.</li> <li>3. Fully implement the proposed Project under a self-imposed "Safety Case" process for the detailed design of the proposed Project. This would begin with the</li> </ol>	Offshore	USCG	Pre-construction, Construction, Post-construction, and Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>FEED but could be completed only when the level of the facility definition is in the advanced detailed design phase. This would require a complex series of additional detailed safety checks and balances be put into place, including HAZID, hazard and operability studies (HAZOPs), quantitative risk analyses (QRA), formal safety analyses (FSA), and associated safety engineering exercises such as process plant modeling and analyses. This would be finalized during the detailed design of the FSRU safety systems, the process plant and deck layouts, and the associated systems such as piping and utilities, and the control systems and procedures. Upon startup, the Safety Case would become a “living tool” for the facility operating team—one that would be updated and reanalyzed as needed based on operational experience—to ensure that the proposed Project meets or exceeds required standards during all phases of operation.</p> <p>4. Upon internal Project sanction/funding, ensure detailed engineering would be conducted for all components by suitably qualified and experienced contractors under the management of an Applicant technical team and in accordance with demanding technical requirements that would be carefully defined in contractual documents. The selected qualified engineering contractors would likely be different for the contractor designing the hull, regasification topsides, mooring, pipelines, etc. Using this process, the Applicant would ensure that all engineering is executed to meet or exceed the regulatory and Applicant’s internal requirements.</p> <p>5. Commission a series of model tests of the FSRU facility at an experienced and well-established model test</p>			

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>basin. More advanced detailed theoretical analyses would be completed first to identify the governing criteria and cased to be modeled in the basin. These model tests would cover both the survival sea states without an LNG carrier moored alongside and the operational sea states with the carrier moored alongside the FSRU. FSRU motions and mooring system loads would be measured under survival storm conditions to confirm the calculated results. Similarly, relative and absolute motions of and between the FSRU and the berthed carrier would be measured to confirm the operability limits of the berth mooring, fender, and loading arm systems. This would also provide information about FSRU motions for the detailed design of the topsides equipment.</p> <p>6. The Applicant would require independent third-party verification of detailed engineering, procured equipment, fabrication, construction, and offshore installation and commissioning of all Project components. Where such independent third-party verification would be required by a regulatory agency, or in order to obtain class certification, a single verification process would be conducted to ensure efficiency of this verification.</p> <p>7. During the construction phases of the proposed Project, both quality and safety audits at major fabrication/ construction sites would be undertaken by the Applicant to ensure quality and safety of the Project components. Actual safety and quality performance during construction would be a contractual obligation for the various contractors selected by the Applicant.</p> <p>8. Before releasing the FSRU from its inshore commissioning, i.e., before towing to the proposed Project site, and after offshore installation of all</p>			

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>components, but before facility startup, the Applicant would conduct a formal pre-startup review. The status of the facility, quality assurance, “outstanding items,” operational preparedness, and compliance with legal and regulatory commitments would be carefully reviewed in a team session with final checks before proceeding first with the tow and second with initial startup of LNG operations. A number of action items would generally be identified in such sessions; some would require closure before proceeding to the next step, and others would be identified for action by specific deadlines or milestones. This process and any findings would be formally documented.</p> <p><b>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.</b> Class certification and a safety management certificate are required under international agreements, i.e., through the International Maritime Organization (IMO), for vessels engaged in international voyages. Although this would not be required for the stationary FSRU, the Applicant would obtain class and safety management certification for the facility, including the subsea pipelines, pipeline ending manifest, and risers. The Applicant would voluntarily provide a documented management system that would be in compliance with the International Safety Management (ISM) Code and the Applicant’s internal health, safety, engineering, and construction standards. When operational, the FSRU would be certifiable under ISM, International Organization for Standardization (ISO) ISO-9000 quality standards and ISO-14000 environmental standards.</p> <p><b>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b> The Applicant would have conducted periodic inspections of the FSRU by classification societies, including annual inspections and a full survey after</p>			

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>five years of facility operation and every five years thereafter. This would help ensure that shipboard procedures are regularly reviewed and updated and that processing and emergency equipment would be maintained appropriately and repaired or upgraded as necessary.</p> <p><b>AM PS-1d. Designated Safety (Exclusion) Zone and Area to be Avoided.</b> The Applicant would monitor a 1,640-foot (500 m) radius safety zone to be designated by the USCG around the FSRU, where public maritime traffic would be excluded. The Applicant has also proposed designating an Area to be Avoided with a radius of 2 NM (2.3 miles or 3.7 km) around the FSRU. Each of these zones would be marked on nautical charts and would serve as part of the Notice to Mariners to avoid this area.</p> <p><b>AM MT-3a. Patrol Safety Zone.</b></p> <p><b>AM MT-3d. Control Room Team Management Techniques.</b></p> <p><b>AM MT-3e. Broadcast of Navigational Warnings.</b></p> <p><b>MM PS-1e. Cargo tank fire survivability.</b> The Applicant shall provide safety engineering, HAZIDs, HAZOPs, and QRA supporting the detailed engineering design, including cases where cargo tank insulation is presumed to fail in the event of a fire.</p> <p><b>MM PS-1f. Structural Component Exposure to Temperature Extremes.</b> The Applicant shall provide safety engineering, HAZIDs, HAZOPs, and QRA supporting the detailed engineering design, including cases where decking, hulls, and structural members are exposed to both cryogenic temperatures from spilled LNG and exposure to extreme heat from a fire, e.g., the Moss storage tanks would be designed with a steel outer shell to provide a barrier against excessive heat and fire in the event of an emergency in the regasification area, and to minimize impacts to multiple tanks.</p>			

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p><b>MM PS-1g. Pre- and Post-Operational HAZOPs.</b> The Applicant shall conduct HAZOPs that address all LNG operations prior to beginning operation and after one year of operation. The results of these reviews shall be used to improve and refine operations practices and emergency response procedures. After the initial and first post-operational HAZOPs, additional HAZOPs shall be conducted every two years unless there has been a change in equipment or other significant change. The results of these reviews shall be reviewed as part of configuration management when any equipment, operational, or procedural changes have been undertaken that would necessitate conducting an additional HAZOP review for the new configuration. HAZOPs may be conducted by the Applicant or by a qualified third party, including participation by the CSLC.</p> <p><b>MM MT-3f. Live Radar and Visual Watch.</b></p>			
<p><b>PS-2: Potential Release of LNG due to High-Energy Marine Collision or International Attack</b></p> <p>A high-energy collision with the FSRU or an LNG carrier and another vessel or an intentional attack could cause a rupture of the Moss tank(s) holding LNG, leading to a release of an unignited flammable vapor cloud that could extend beyond the 1,640-foot (500 m) radius safety zone around the FSRU, or could impact members of the boating public in the identified potential impact area, and impact boats traveling in the Traffic Separation Scheme. (Class I)</p>	<p><b>AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone.</b> The Applicant would equip the LNG carriers and the FSRU with an Automatic Identification System (AIS) and with real-time radar and marine VHF radiotelephone capabilities.</p> <p><b>AM PS-1a. Applicant Engineering and Project Execution Process.</b></p> <p><b>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.</b></p> <p><b>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b></p> <p><b>AM PS-1d. Designated Safety (Exclusion) Zone and Area to be Avoided.</b></p> <p><b>AM MT-3a. Patrol Safety Zone.</b></p> <p><b>AM MT-3b. LNG Carrier Monitoring by the FSRU.</b></p> <p><b>AM MT-3c. One LNG Carrier in Approach Route.</b></p>	Offshore	USCG	Pre- Construction, Construction, Post-Construction, Operations

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>AM MT-3d. Control Room Team Management Techniques.</b> <b>AM MT-3e. Broadcast of Navigational Warnings.</b> <b>MM PS-1e. Cargo Tank Fire Survivability.</b> <b>MM PS-1f. Structural Component Exposure to Temperature Extremes.</b> <b>MM PS-1g. Pre- and Post-Operational HAZOPs.</b> <b>MM MT-3f. Live Radar and Visual Watch.</b> <b>MM MT-3g. Information for Navigational Charts.</b> <b>MM MT-3h. Additional Patrol Vessel.</b>			
<b>Offshore Pipelines</b>				
<b>PS-3: Potential Release of Odorized Natural Gas due to Damage to Subsea Pipelines</b> Fishing gear could become hung up on the pipeline and potentially damage one or both of the subsea pipelines. Similar damage may occur due to a seismic event or subsea landslide. (Class I)	<b>AM PS-3a. More Stringent Pipeline Design.</b> The Applicant would design and install pipelines to meet seismic criteria to ensure that pipeline integrity is maintained during severe seismic events that might be expected to bend or bow the pipelines. <b>MM PS-3b. Emergency Communication/Warnings.</b> The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity. <b>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</b> The Applicant shall identify any offshore or onshore areas where the new transmission pipelines may be subject to accelerated corrosion due to stray electrical currents, and implement precautions and mitigation measures as recommended in a November 12, 2003 Federal OPS pipeline safety advisory (68 FR 64189). Cathodic protection systems shall be installed and made fully operational as soon as possible during pipeline construction.	Offshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction, Operations

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>MM MT-1d. Securite Broadcasts.</b> <b>MM MT-3g. Information for Navigational Charts.</b>			
<b>Shore Crossing</b>				
<p><b>PS-4: Potential Release of Odorized Natural Gas due to Accidental Damage to Onshore Pipelines</b></p> <p>The potential exists for accidental or intentional damage to the onshore pipelines or valves carrying odorized natural gas. Damage, fires, and explosions may occur due to human error, equipment failure, natural phenomena (earthquake, landslide, etc.). This would result in the release of an odorized natural gas cloud at concentrations that are likely to be in the flammable range. (Class I)</p>	<p><b>AM PS-4a. Class 3 Pipeline Design Criteria.</b> The Applicant or its designated representative would construct all pipeline segments to meet the minimum design criteria for a DOT Class 3 location, which would improve safety and reduce the need to reconstruct the pipeline segments as additional development and population densities increase along the pipeline corridor.</p> <p><b>MM PS-4b. Pipeline Integrity Management Program.</b> The Applicant shall develop and implement a pipeline integrity management program, including confirming all potential High Consequence Areas (HCAs) (including identification of potential sites from “licensed” facility information [day care, nursing care, or similar facilities] available at the city and county level) and ensuring that the public education program is fully implemented before beginning pipeline operations.</p> <p><b>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</b> The Applicant shall install five approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Center Road Pipeline. The Applicant shall install three approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Line 225 Pipeline Loop. The number of valves includes the station valves at each end of these pipelines. All valves shall be equipped with either remote valve controls or automatic line break controls.</p> <p><b>MM PS-4d. Treat Shore Crossing as Pipeline HCA.</b> The Applicant shall treat any onshore public beach area, under</p>	Onshore	USCG/CSLC	Pre- Construction, Construction, Operations

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>which is located a pipeline (s) that is carrying natural gas, as an HCA.</p> <p><b>MM PS-4e. Automatic Monitoring for Flammable Gas.</b> The Applicant shall design and install an automatic monitoring system (sniffer) in shore crossing HCAs.</p> <p><b>MM PS-4f. Emergency Communication and Warnings.</b> The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any nearshore area, immediate notification of local police and fire services, and visual and audible alarms to alert members of the public in the area, e.g., warning horns and strobe lights located along the onshore pipeline HCA corridor whenever the monitoring system indicates that there might be a problem with the pipeline integrity in that area. The emergency plans shall be in compliance with OPS Advisory Bulletin ADB-05-03, which requires preplanning with other utilities for coordinated response to pipeline emergencies.</p> <p><b>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</b></p>			
<p><b>PS-5:</b> <i>Increased Potential for Injury, Fatality, and Property Damage Due to Fire or Explosion in Areas with Less Robust Housing Construction and outdoor Activity.</i></p> <p>In the event of an accident, there is a greater likelihood of injury, fatality, and property damage near Center Road Pipeline MP 4.1, an HCA (Class I).</p>	<p><b>AM PS-4a. Class 3 Pipeline Design Criteria.</b></p> <p><b>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area.</b> The Applicant shall treat as an HCA those areas where the potential impact radius includes part or all of a manufactured-home residential community, including outdoor gardens and areas with one or more normally occupied mobile homes or travel trailers used as temporary or semi-permanent housing, and outdoor gardens. The Applicant shall enact for these areas the pipeline safety requirements contained in 49 CFR Part 192 Subpart O.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>MARINE TRAFFIC (Section 4.3)</b>				
<b>Offshore Construction</b>				
<b>MT-1:</b> <i>Temporary Increase in Maritime Traffic during FSRU Mooring, Offshore Pipeline Construction, and Shore Crossing Resulting in Increased Safety Risks</i> Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, and subsea pipelines could temporarily increase maritime traffic congestion and increase the risk of vessel collision. (Class II)	<b>AM MT-1a. Safety Vessel Warnings.</b> A safety vessel would be stationed 3 to 5 NM (3.5 to 5.8 miles or 5.6 to 9.3 km) from the pipelaying barge in the direction of predominant traffic flow to warn vessels approaching construction that deviation from their course and speed is necessary. <b>AM MT-1b. Automatic Identification System.</b> The pipelaying barge and associated vessels would be equipped with an AIS. <b>MM MT-1c. Notices to Mariners.</b> The Applicant shall ensure that Notices to Mariners contain planned positions of vessels for the entire construction period, planned traffic lane closures, speed restrictions in the vicinity of vessels, and alternative routes and radio channels that Project vessels shall monitor and work. These notices shall include vessel names, if available, and shall mention the presence of the safety vessel(s) identified in MM MT-1e. The Applicant shall submit unforeseen short-notice changes to the USCG for dissemination as a Broadcast Notice to Mariners and shall include such changes in the Securite broadcasts identified in MM MT-1d. <b>MM MT-1d. Securite Broadcasts.</b> The Applicant shall ensure that a Project vessel in the construction area makes Securite broadcasts on VHF-FM at half-hour intervals, informing mariners about the current construction location, any lane restrictions, and preferred speed and standoff distances from the Project vessels and trailing pipeline. The vessel could be the safety vessel identified in MM MT-1e. <b>MM MT-1e. Safety Vessel.</b> The Applicant shall ensure that the safety vessel be present at all times during construction, be equipped with radar and marine VHF radio, be of	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>sufficient size and type, and have a sufficiently trained crew to respond to emergencies. This vessel's captain shall instruct intercepted vessels as to the location of construction vessels and the standoff distances from vessels and the pipeline to ensure that the intercepted vessel safely avoids the construction zone. This vessel shall be of sufficient speed to intercept vessels failing to alter course or answer radio hails. Alternatively, more than one vessel of this type shall be used and stationed in various positions around the construction site to ensure full coverage of the construction area.</p> <p><b>MM MT-1f. Guard Boats.</b> The Applicant shall station two guard boats, in addition to the safety vessel identified in MM MT-1e, on watch while construction takes place in waters less than 656 feet (200 m) deep where trawling occurs to warn or intercept commercial fishing vessels before they reach the construction area. These smaller guard boats shall be stationed on either side of the construction vessels and intercept the faster recreational vessels that may not have marine radios. The guard boats shall be equipped with spotlights for identification of non-answering vessels at night and loud hailers or bullhorns to warn these vessels about the construction area.</p> <p><b>MM MT-1g. Construction Schedule Signs.</b> The Applicant shall post signs at local marinas and ports to inform the public of the nearshore construction schedule at least one month prior to the first day of construction. One week prior to construction the Applicant shall replace any signs that are no longer present.</p>			
<p><b>MT-2:</b> <i>Long-Term Increase in Maritime Traffic during Offshore Operations</i></p> <p>LNG carriers, tugs, and attending vessels transiting to and from the</p>	<p><b>AM MT-2a. Provisions for Delays.</b> Project operational vessels (including LNG carriers) would not use anchorages except possibly in emergency situations. If there is a delay in docking, LNG carriers would slow their speed to arrive at a suitable time or stop or drift between 100 and 200 NM</p>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
FSRU, could increase maritime traffic congestion during Project operations. (Class II)	(115 and 230 miles or 185 and 370 km) offshore. <b>AM MT-2b. Established Routes to and from Port Hueneme.</b> Vessels would use the routes depicted on Figure 4.3-3 to travel to and from Port Hueneme.			
	<b>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors.</b> The Applicant would abide by the corridors that direct traffic into specified patterns within 30 fathoms (180 feet) of shore established by JOFLO. Although JOFLO is not a governmental agency and has no jurisdiction to set marine traffic corridors, the Applicant would respect its established corridors. <b>MM MT-2d. Incorporation of Procedures for Delays.</b> To formalize AM MT-2a, the Applicant shall incorporate procedures that mandate early notification of possible delays into the facility operations manual for LNG carriers so that a carrier might reduce transit speed in order to arrive at a later time and shall contact the incoming ship once it is determined that a delay may occur to instruct them to stay at least 100 NM (115 miles or 158 km) offshore.			
<b>MT-3: Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers</b> The FSRU mooring location would be situated approximately 2 NM (2.3 miles or 3.7 km) from the Southbound Coastwise Traffic Lane of the Santa Barbara Channel TSS, which has relatively high levels of maritime traffic. In addition, vessels entering/leaving Port Hueneme or other local marina could pass nearby; thus, maritime traffic could be substantially increased with Project operations and the risk of vessel	<b>AM MT-3a. Patrol Safety Zone.</b> Two tugboats on standby duty would patrol the Cabrillo Port's designated safety zone, except during docking and undocking operations. Dedicated personnel aboard the FSRU would monitor marine traffic. <b>AM MT-3b. LNG Carrier Monitoring by the FSRU.</b> LNG carriers inbound and outbound would be monitored by the FSRU's own marine traffic management system. Specific required reporting and traffic information exchange protocols would be implemented. Appropriate adjustments to scheduling of LNG carriers would be in place to avoid routine collision possibilities. <b>AM MT-3c. One LNG Carrier in Approach Route.</b> Only one LNG carrier would be permitted to transit the approach route at any given time (see Figure 4.3-2). Minimum distances between LNG carriers when enroute on the LNG	Offshore	USCG/CSLC	Pre- Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
collision could be increased. (Class II)	<p>carrier approach route would be prescribed.</p> <p><b>AM MT-3d. Control Room Team Management.</b> The Applicant would ensure that all members of the control room team are aware of possible dangers of upcoming operations and would inform all crew members that it is their responsibility to bring indication of danger to the attention of higher authorities.</p> <p><b>AM MT-3e. Broadcast of Navigational Warnings.</b> The FSRU would broadcast navigational warnings of arriving and departing LNG carriers on radio, TOR, NAVTEX, and Sat-C.</p> <p><b>MM MT-3f. Live Radar and Visual Watch.</b> The Applicant shall ensure that an officer provide live radar and visual watch in order to detect and identify approaching vessels and note approaching aircraft at all times. The watchstanders shall provide a full-time radio watch, which shall monitor VHF-FM frequencies commonly used for emergency and normal ship-to-ship communications, and contact approaching vessels to inform them of the FSRU's location, intentions, and the nature of safety and/or security zones in effect. Guidance for these FSRU positions shall be included in the facility operations and security manuals.</p> <p><b>MM MT-3g. Information for Navigational Charts.</b> The Applicant shall ensure that all required information is provided to the USCG and other agencies, as necessary, to place the FSRU location, safety zone information, and subsea pipeline locations and warnings on navigational charts. This shall include a Notice to Mariners for chart correction and inclusion on the next edition of applicable navigation charts. These data shall be provided sufficiently early to allow these changes to be made on charts when FSRU mooring occurs. The Applicant shall coordinate with the USCG to identify acceptable deadlines currently in place.</p>			

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>MM MT-3h. Additional Patrol Vessel.</b> The Applicant shall have a vessel patrol the safety zone while the tugs are engaged in docking an LNG carrier.			
<b>MT-4: FSRU or LNG Carrier Accident Impact on Marine Traffic</b> An incident at the FSRU or on an LNG carrier could adversely affect marine traffic. (Class II)	<b>AM PS-2a. Radar, Marine VHF, and Radiotelephone.</b> <b>AM MT-3a. Patrol Safety Zone.</b> <b>AM MT-3b. LNG Carrier monitoring by the FSRU.</b> <b>AM MT-3c. One LNG Carrier Approach Route.</b> <b>MM PS-3b. Emergency Communications/Warnings.</b> <b>MM MT-3f. Live Radar and Visual Watch.</b>	Offshore	USCG/CSLC	Operations
<b>MT-5: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction</b> Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, or subsea pipelines could temporarily burden maritime traffic tracking systems or make clearing of some warning areas impossible; thus, temporary disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur. (Class II)	<b>MM MT-5a. Avoid Point Mugu Sea Range.</b> The Applicant shall ensure that Project-related vessels, unless such vessels are related to pipeline construction, do not intrude into the waters in the Point Mugu Sea Range. When construction must take place in a Point Mugu Sea Range warning area, such as where the subsea pipelines cross the range, the Applicant shall give notice of at least one month, and preferably six months, to the U.S. Navy to allow for adequate coordination. <b>MM MT-5b. Daily Safety Briefs.</b> The Applicant shall ensure that daily safety briefs aboard all Project vessels include instructions to avoid use of Point Mugu Sea Range waters. <b>MM MT-5c. Daily Coordination with the U.S. Navy.</b> The Applicant shall coordinate daily (or at an interval that the U.S. Navy deems sufficient) with the U.S. Navy to ensure that no conflicts exist between Navy operations and Project construction when Project vessels would be expected to be in any warning area. If a Navy warning area needs to be used by construction vessels, construction shall be postponed until the situation is resolved to the satisfaction of Project management and the U.S. Navy. Coordination with the U.S. Navy shall be completed at least one month prior to the date that construction begins.	Offshore	USCG/CSLC	Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>MM MT-5d. Monitor U.S. Navy Securite Broadcasts.</b> The Applicant shall ensure that Project vessels monitor all U.S. Navy Securite warning broadcasts on VHF-FM. This would likely require switching from normally monitored frequencies, when prompted by a preliminary broadcast by the U.S. Navy, for additional information. Instructions to do so shall be included in daily safety briefs. Conflicts, actual or perceived, shall be addressed immediately by the Project person-in-charge on site, or by individual Project vessel captains via VHF communications with the U.S. Navy.			
<b>MT-6:</b> <i>Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex</i> Marine activities associated with Project operations could burden maritime traffic tracking systems or could make clearing of some warning areas impossible; thus disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur. (Class II)	<b>MM MT-6a. Follow U.S. Navy Securite Broadcasts.</b> <b>MM MT-6b. LNG Carrier Schedules.</b> <b>MM MT-6c. Coordinate with the U.S. Navy.</b>	Offshore	USCG/CSLC	Construction, Operations
<b>AESTHETICS (Section 4.4)</b>				
<b>AES-1:</b> <i>Alter Ocean Views from Onshore and Channel Islands Viewpoints</i> The FSRU in an unobstructed viewshed could alter views from beach areas, residences near sea level, residences at higher elevations, and from hiking trails at higher elevations. (Class III)	None.	Offshore and Onshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

<b>Impact</b>	<b>Mitigation Measure</b>	<b>Location</b>	<b>Responsible Agency</b>	<b>Timing</b>
<b>AES-2:</b> <i>Alter Nighttime Ocean Views</i> Night lighting on FSRU could be visible to residents, thereby altering night vistas (Class II)	<b>MM BIOMAR-3a. Construction/Operation Lighting Control Plan.</b>	Offshore and Onshore	USCG/CSLC	Construction, Operations
<b>AES-3:</b> <i>Alter Views for Recreational Boaters</i> The FSRU would change the visual character of the ocean view for recreational boaters. (Class I)	None.	Offshore	USCG/CSLC	N/A
<b>AES-4:</b> <i>Alter Offshore Views from an Eligible State Scenic Highway</i> The FSRU would be visible to travelers on an eligible State Scenic Highway. (Class III)	None.	Offshore and Onshore	USCG/CSLC	N/A
<b>AES-5:</b> <i>Alter Ocean Views During Construction</i> Night lighting during offshore construction could be visible from the shore and to residents living in the foothills and higher elevation area in Malibu, thereby temporarily altering the nighttime viewshed (Class II).	<b>MM BIOMAR-3a. Construction/Operation Lighting Control Plan.</b>	Offshore and Onshore	USCG/CSLC	Construction
<b>AES-6:</b> <i>Substantial Damage to Onshore Scenic Resources Along a State Scenic Highway</i> Construction of the onshore pipelines could alter the scenic quality of a highway eligible for the State Scenic Highway System (Class III).	<b>MM GEO-1b. Backfilling, Compaction, and Grading.</b>	Onshore	USCG/CSLC	Construction

Table 6.1-1 Mitigation Monitoring Program				
Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>AGRICULTURE AND SOILS (Section 4.5)</b>				
<b>AGR-1: Temporary Loss of Agricultural Land</b> Construction activities could temporarily cause a loss of agricultural land, crops, or crop production (Class II).	<b>AM AGR-1a. Compensation for Temporary and Permanent Loss of Agricultural Land, Crop Loss, Future Loss of Production, and Other Negative Impacts.</b> In compliance with California Government Code § 7267 et seq., the Applicant or its designated representative would make every reasonable effort to acquire easements (temporary and permanent) expeditiously by negotiation. The easement rights would be appraised before the initiation of negotiations, and the property owner, or the property owner's designated representative, would be given an opportunity to accompany the appraiser during his or his inspection of the property. SoCalGas would establish an amount which it believes to be just compensations for the easement rights based upon the appraisal. SoCalGas would provide the property owner with a written statement of, and summary of the basis for, the amount it established as just compensation, which amount would not be less than the appraised value of the easement rights. The appraisal process would consider the value of the easement rights being acquired, and where applicable, crop loss, future loss of production, and any other negative impacts that SoCalGas' acquisition and use of the easement areas would have upon agricultural operations. <b>MM AGR-1b. Coordinate Pipeline Installation with Farmers.</b> The Applicant or its designated representative shall let the farmer decide if the farmer will remove seed/crops or whether the Applicant's contractor will remove the seed/crops. <b>MM AGR-1c. Minimize Orchard Tree Removal.</b> Recognizing that no trees can grow on the permanent pipeline, the Applicant or its designated representative shall remove, box, maintain, and replant small orchard trees in the area between the temporary construction easement	Onshore	USCG/CSLC	Pre-Construction, Construction, Post-Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	(TCE) and the permanent ROW. The Applicant or its designated representative shall minimize the number of mature trees removed. <b>MM AGR-1d. Post-Construction Restoration Measures.</b> The Applicant or its designated representative shall protect all substructures, such as drain tiles, during construction and replace any substructures if damaged. The Applicant or its designated representative shall restore the grade of the TCE to match the surrounding field for drainage or compensate the farmer if the farmer chooses to have a contractor perform precision grading.			
<b>AGR-2: Permanent Conversion of Agricultural Land to Non-Agricultural Use</b> Operational activities could cause a loss of agricultural land, crops, or crop production. Construction of permanent facilities could cause a permanent loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. Prime farmland or farmland of Statewide Importance could be converted to non-agricultural uses (Class I).	None.	Onshore	USCG/CSLC	N/A
<b>AGR-3: Topsoil Loss, Mixing, and/or Compaction</b> Construction activities could result in topsoil and subsoil mixing, soil compaction, and/or introduction of weed/invasive species, thereby	<b>AM TerrBio-4a. Weed Management Plan.</b> <b>MM AGR-3a. Topsoil Salvage and Replacement.</b> The Applicant or its designated representative shall ensure that the upper 12 inches (0.3 m) of topsoil (or less depending on the existing depth of the topsoil) is salvaged, 11 segregated from the rest of the soil, and replaced on top of the disturbed	Onshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
reducing agricultural productivity (Class II).	areas and replaced wherever the pipeline is trenched. <b>MM AGR-3b. Landowner Compensation for Soil Productivity Losses.</b> Prior to construction, the Applicant or its designated representative shall negotiate with landowners regarding measures to ensure that soil productivity is maintained and that the criteria for determining loss of soil productivity and the terms for compensation for such loss are determined.			
<b>AGR-4: Dust Deposition</b> Dust generated during construction could be deposited on adjacent agricultural lands with planted crops, temporarily reducing productivity (Class II).	<b>MM AIR-2b. Construction Fugitive Dust Plan.</b> <b>MM AGR-4a. Dust Suppression Water Quality.</b> For dust suppression, the Applicant or its designated representative shall use potable water sources or water sources approved for discharge near agricultural uses. Water used on agricultural fields shall not be treated with chemicals such that it could adversely affect agricultural fields.	Onshore	USCG/CSLC	Pre-Construction, Construction
<b>AGR-5: Loss of Tree Rows</b> Loss of tree rows could reduce agricultural productivity (Class II).	<b>MM TerrBio-2g. Tree Avoidance and Replacement.</b>	Onshore	USCG/CSLC	Construction, Post-Construction
<b>AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line</b> If the natural gas transmission line leaked and/or was ignited and the resulting fire could cause the loss of crops or the contamination of the soil in the vicinity of the leak or fire (Class II).	<b>AM PS-3a. More Stringent Pipeline Design.</b> <b>AM PS-4a. Class 3 Pipeline Design Criteria.</b> <b>MM AGR-6a. Restoration After a Natural Gas Transmission Line Accident.</b> The Applicant or its designated representative shall restore the area that was either contaminated or burned as a result of a breach in the natural gas transmission line. <b>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</b> <b>MM PS-4b. Pipeline Integrity Management Program.</b> <b>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>AIR QUALITY (Section 4.6)</b>				
<b>Offshore</b>				
<p><b>AIR-1:</b> <i>Net Emission Increases of Criteria Pollutants from Construction Activities in Designated Nonattainment Areas</i></p> <p>Project construction activities in Ventura and Los Angeles Counties would generate emissions that exceed quantitative thresholds for ozone precursors, NOx and ROC, and CO (Class I).</p>	<p><b>MM AIR-1a. Construction Emissions Mitigation Plan.</b></p> <p>The Applicant shall prepare a Construction Emissions Mitigation Plan and work with the VCAPCD and the SCAQMD to implement specific measures contained in the plan. The plan shall outline specific measures to mitigate potential impacts associated with construction-related emissions of criteria air pollutants and toxic air contaminants. At a minimum, the plan shall include the following commitments:</p> <ul style="list-style-type: none"> <li>• Reduce emissions of diesel particulate matter and other air pollutants by using particle traps and other technological or operational methods;</li> <li>• Ensure diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use;</li> <li>• Prohibit engine tampering to increase horsepower;</li> <li>• Locate engines, motors, and equipment as far as possible from residential areas and sensitive receptors (schools, daycare centers, and hospitals);</li> <li>• Require low sulfur diesel fuel (&lt;15 ppm by weight);</li> <li>• Reduce construction-related trips of workers and equipment, including trucks.</li> <li>• Require that leased and new vehicles and equipment be less than 10 years old and operate using “clean energy,” e.g., a minimum of 75 percent of the equipment’s total horsepower;</li> <li>• Use engine types such as electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations; and</li> </ul>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<ul style="list-style-type: none"> <li>To the extent possible, use equipment fitted with engines compliant with USEPA Tier 2, 3 or 4 standards for off-road engines.</li> </ul>			
<p><b>AIR-2:</b> <i>Violations of Ambient Air Quality Standards Caused by Particulate Emissions from Onshore Construction Activities</i></p> <p>Onshore Project construction activities would generate PM<sub>10</sub> and PM<sub>2.5</sub> emissions that could cause or contribute to existing or projected violations of NAAQS and/or State Ambient Air Quality Standards (Class I).</p>	<p><b>AM AIR-2a. Fugitive Dust Controls.</b> The Applicant or its designated representative would provide for the following control measures:</p> <ul style="list-style-type: none"> <li>Excavation and moist spoils would be watered down;</li> <li>Spoil piles that remain more than a few weeks would be covered with tarps;</li> <li>Water trucks would be used for dust suppression; and</li> <li>Disturbed areas not covered with surface structures, such as buildings and pavements, would be stabilized following construction activities. This stabilization may involve planting these areas with suitable vegetation to minimize future on-site soil loss and off-site sedimentation.</li> </ul> <p><b>MM AIR-2b. Construction Fugitive Dust Plan.</b> The Applicant or its designated representative shall be required to develop, and submit for approval, a Construction Fugitive Dust Control Plan prior to the commencement of construction activities. The plan shall outline the steps to be taken to minimize fugitive dust generated by construction activities by:</p> <ul style="list-style-type: none"> <li>Describing each active operation(s) that may result in the generation of fugitive dust;</li> <li>Identifying all sources of fugitive dust, e.g., earth moving, storage piles, vehicular traffic; and</li> <li>Describing the control measures to be applied to each of the sources of dust emissions identified above. The descriptions shall be sufficiently detailed to demonstrate that the best available control measure(s) required by the SCAQMD and the VCAQMD for linear projects will</li> </ul>	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>be used and/or installed during all periods of active operations.</p> <p>At a minimum, the control measures specified in the Construction Emissions Reduction Plan shall conform with all applicable requirements of SCAQMD Rule 403 and with the fugitive dust mitigation measures described in section 7.4.1 of the Ventura County Air Quality Assessment Guidelines (2003).</p> <p>Due to potential exceedances of applicable air quality standards, this plan shall also identify specific methodologies for taking “real-time” measurements of PM<sub>10</sub> and PM<sub>2.5</sub> ambient concentrations at locations along the boundary of the proposed construction areas. The plan shall include a description of “action levels” for these measurements and the corresponding steps to be taken, e.g., increase watering to reduce ambient particulate concentrations. The specified monitoring methodologies included in this plan must meet the approval of the VCAPCD and the SCAQMD.</p> <p>The Applicant or its designated representative shall obtain prior approval from the SCAQMD or the VCAPCD prior to any deviations from fugitive dust control measures specified in the Construction Fugitive Dust Plan. A justification statement used to explain the technical or safety reason(s) that preclude the use of required fugitive dust control measure(s) shall be submitted to the appropriate agency for review.</p> <p><b>MM AIR-1a. Construction Emissions Reduction Plan.</b></p>			
<b>AIR-3:</b> <i>Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an</i>	<p><b>AM PS-3a. More Stringent Pipeline Design.</b></p> <p><b>AM PS-4a. Class 3 Pipeline Design Criteria.</b></p> <p><b>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</b></p>	Onshore and Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p><i>Accidental LNG Spill or Pipeline Rupture</i></p> <p>An LNG spill from the FSRU or a pipeline rupture would result in a natural gas release and/or a fire that could cause temporary increases in ambient air concentrations of criteria pollutants in excess of air quality standards, expose sensitive receptors and the general public to substantial concentrations of toxic air contaminants, and/or create objectionable odors (Class I).</p>	<p><b>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</b></p> <p><b>MM PS-4d. Treat Shore Crossing as Pipeline HCA.</b></p> <p><b>MM PS-4e. Automatic Monitoring for Flammable Gas.</b></p> <p><b>MM PS-4f. Emergency Communication and Warnings.</b></p> <p><b>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area.</b></p>			
<p><b>AIR-4: Emissions of Ozone Precursors from the FSRU</b></p> <p>Emissions of NO<sub>x</sub> and ROC generated from FSRU equipment could contribute to ambient ozone impacts in the areas downwind of the Project (Class II).</p>	<p><b>AM AIR-4a. Emission Reduction Programs.</b> As part of air permit-to-construct application procedures, the Applicant has committed to the USEPA, the CARB, and local air districts to identify a suitable emission reduction program (in addition to reductions inherent to the Project) that would reduce annual emissions of NO<sub>x</sub> by an amount up to the FSRU's annual NO<sub>x</sub> emissions.</p>	Offshore and Onshore	USCG/CSLC	Pre-Construction, Construction
<p><b>AIR-5: Emissions of Ozone Precursors from Project Vessels Operating in California Coastal Waters.</b></p> <p>Emissions of NO<sub>x</sub> and ROC generated from LNG carriers, tugboats, and the crew/supply boat operating in California Coastal Waters could contribute to ambient ozone impacts in the areas located downwind of the Project (Class I).</p>	<p><b>AM AIR-5a. Natural Gas Only on Project Vessels.</b> The Applicant has proposed to use natural gas as the primary fuel in the main and auxiliary engines on the LNG carriers, tug supply boats, and crew boat whenever these vessels are berthed at the FSRU or operating within 25 miles of the coast of California. A small amount of California diesel would be used simultaneously as a pilot fuel in LNG carrier, tugboat and crew/supply boat engines resulting in a fuel mixture with a natural gas to diesel ratio of approximately 99:1.</p> <p><b>AM AIR-5b. Reduced Vessel Traffic Between the FSRU and Port Hueneme.</b> The Applicant has proposed to reduce, by more than half, the number of weekly and annual transits made by the crew boat/supply boat to and from Port</p>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	Hueneme and the FSRU from the original estimates in the October 2004 Draft EIS/EIR. <b>MM AIR-5c. Consultation with CARB to Identify Emission Reduction Opportunities.</b> The Applicant shall continue to consult with the CARB in an effort to identify and implement additional emission reduction opportunities in Ventura County and/or the South Coast Air Basin, such as unfunded Carl Moyer projects, that would mitigate emissions generated from Project vessels operating in Federal waters.			
<b>AIR-6:</b> <i>Emissions of Ozone Precursors from Project Construction Activities in Federal Waters</i> Project construction activities in Federal waters would generate emissions of NOx and ROCs that could contribute to ambient ozone impacts in the areas located downwind of the Project (Class III).	<b>MM AIR-1a. Construction Emissions Reduction Plan.</b>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction
<b>AIR-7:</b> <i>Temporary Ambient Air Quality Impacts Caused by Air Pollutant Emissions from Onshore and Offshore Construction Activities</i> Air pollutants emitted during onshore and offshore Project construction activities would cause temporary increases in ambient pollutant concentrations (Class III).	<b>MM AIR-1a. Construction Emissions Reduction Plan.</b>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction
<b>AIR-8:</b> <i>Ambient Air Quality Impacts Caused by Air Pollutant Emissions from the FSRU and Project Vessels</i> Air pollutants emitted from FSRU equipment and Project vessels associated with operations would	None.	Offshore and Onshore	USCG/CSLC	N/A

Table 6.1-1 Mitigation Monitoring Program				
Impact	Mitigation Measure	Location	Responsible Agency	Timing
cause increases in ambient pollutant concentrations (Class III).				
<b>MARINE BIOLOGY (Section 4.7)</b>				
<b>BioMar-1:</b> <i>Burial of Sessile Marine Biota</i> Construction activities associated with pipeline and mooring installation could temporarily disturb soft substrate sediments and could bury or crush sessile marine biota such as benthic invertebrates (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>BioMar-2:</b> <i>Temporary Avoidance of the Area Due to Increased Turbidity from Construction Activities Offshore or Accidental HDB Release of Drilling Fluids.</i> A release of drilling fluids and bentonite into the subtidal environment during HDB could temporarily increase turbidity. Increases in turbidity at the offshore exit point could cause fish to avoid this area (Class II).	<b>MM WAT-3a. Drilling Fluid Release Monitoring Plan.</b>	Offshore and Onshore	USCG/CSLC	Pre-Construction, Construction
<b>BioMar-3:</b> <i>Temporary or Permanent Alteration or Disturbance of Marine Biota or Sensitive Habitats</i> Construction and/or operational activities could alter EFH or sensitive habitats (beach spawning areas or hard bottom substrate,) resulting in cessation or reduction of feeding or reproduction, area avoidance, or	<b>AM BioMar-3a. Construction/Operations Lighting Control.</b> A plan would be developed in consultation with a marine bird expert and submitted for approval by the USCG and the CSLC at least 60 days prior to construction. <b>AM NOI-4a. Construction Noise Reduction Measures.</b> <b>MM BioMar-3b. Monitoring.</b> If intertidal beach work occurs between February and September, the Applicant shall ensure that a qualified biologist will monitor the beach within 100 feet (30.5 m) of the route during the two weeks	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
changes in migration patterns (Class II).	<p>prior to installation. If a grunion spawning event occurs during the two weeks prior to construction activities, installation will be delayed until the grunion eggs have hatched (approximately two weeks). A qualified biologist shall determine the day in which construction can begin again after the spawning event.</p> <p><b>MM BioMar-3c. Avoidance.</b> Although recent surveys of the Project site have not identified any hard bottom areas, the Applicant shall ensure that any unexpected hard bottom habitats encountered during construction will be avoided.</p> <p><b>MM NOI-1a. Efficient Equipment Usage.</b></p>			
<p><b>BioMar-4:</b> <i>Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations</i></p> <p>Construction or operational activities could alter sensitive habitats such that marine mammal reproduction could be reduced, prey species could be eliminated, or animals might avoid an area (Class III).</p>	None.	Offshore	USCG/CSLC	N/A
<p><b>BioMar-5:</b> <i>Noise Disrupting Marine Mammal Behavior</i></p> <p>Noise from construction and operation vessels or equipment could disrupt migrations; interfere with or mask communications, prey and predator detection, and/or navigation; cause adverse behavioral changes; or result in temporary or permanent hearing loss (Class II).</p>	<p><b>AM BioMar-9a. Avoid Offshore Construction During Gray Whale Migration Season.</b></p> <p><b>AM BioMar-9b. Marine Mammal Monitoring.</b></p> <p><b>MM BioMar-5a. Noise Reduction Design.</b> The Applicant shall work with marine architects, acoustic experts and mechanical engineers and the USCG, among others, to design the FSRU and its equipment to reduce, to the maximum extent feasible, the output of cumulative noise from the facility.</p> <p><b>MM BioMar-5b. Acoustic Monitoring Plan.</b> The Applicant shall prepare an acoustic monitoring plan to obtain site-specific baseline data and empirical data prior to and during</p>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	LNG operations. <b>MM BioMar-5c. Helicopter Altitude.</b> The Applicant shall ensure that helicopters maintain a flight altitude of at least 2,500 feet (762 m) except during takeoff and landing. <b>MM NOI-1a. Efficient Equipment Usage.</b>			
<b>BioMar-6: Mortality and Morbidity of Marine Biota from Spills</b> Although rare, an accidental release of a significant amount of oil or fuel during construction or operation, or LNG spills or a natural gas leak from subsea pipelines, could cause morbidity or mortality of marine biota, including fish, invertebrates, sea birds, and sea turtles, through direct contact or ingestion of the material (Class I).	<b>AM PS-1a. Applicant Engineering and Project Execution Process.</b> <b>AM PS-1b. Certification and a Safety Management Certificate for the FSRU.</b> <b>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b> <b>AM PS-1d. Designated Safety (Exclusion) Zone and Area to be Avoided.</b> <b>AM MT-3a. Patrol Safety Zone.</b> <b>MM PS-1e. Cargo Tank Fire Survivability.</b> <b>MM PS-1f. Structural Component Exposure to Temperature Extremes.</b> <b>MM PS-1g. Pre- and Post-Operational HAZOPs.</b>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations
<b>BioMar-7: Discharge of Bilge Water, Gray Water, and Deck Runoff</b> An accidental discharge of untreated bilge water, gray water, or deck runoff from the FSRU or from the LNG tankers could result in the release of contaminants into the marine environment. A release of contaminants could cause mortality or morbidity of fish and/or benthic communities (Class III).	None.	Offshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p><b>BioMar-8:</b> <i>Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals</i></p> <p>A release of LNG, natural gas, fuel, or oil could cause injury or mortality of marine mammals through direct contact or ingestion of the material (Class I).</p>	<p><b>AM PS-1a. Applicant Engineering and Project Execution Process.</b></p> <p><b>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.</b></p> <p><b>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</b></p> <p><b>AM PS-1d. Designated Safety (Exclusion) Zone and Area to be Avoided.</b></p> <p><b>AM MT-3a. Patrol Safety Zone.</b></p> <p><b>MM PS-1e. Cargo Tank Fire Survivability.</b></p> <p><b>MM PS-1f. Structural Component Exposure to Temperature Extremes.</b></p> <p><b>MM PS-1g. Pre- and Post-Operational HAZOPs.</b></p> <p><b>MM MT-3f. Live Radar and Visual Watch.</b></p>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations
<p><b>BioMar-9:</b> <i>Collision between Project Vessels and Marine Mammals or Sea Turtles</i></p> <p>Construction and operational vessels could collide with marine mammals or sea turtles resting on the ocean surface, resulting in injury or mortality (Class III).</p>	<p><b>AM BioMar-9a. Avoid Offshore Construction During Gray Whale Migration Season.</b> The Applicant would conduct offshore construction activities outside the gray whale migration season (June 1-November 30).</p> <p><b>AM BioMar-9b. Marine Mammal Monitoring.</b> All construction and vessels would carry one qualified marine monitor to provide a 360-degree view and watch for and alert vessel crews of the presence of marine mammals during construction activities.</p>	Offshore	USCG/CSLC	Construction
<p><b>BioMar-10:</b> <i>Entanglement of Marine Mammals and Turtles</i></p> <p>Marine mammals or sea turtles could become entangled in construction or operation equipment, causing injury or mortality (Class II).</p>	<p><b>AM BioMar-9b. Marine Mammal Monitoring.</b></p> <p><b>MM BioMar 10a. Deployment of Potentially Entangling Material.</b> The Applicant shall ensure that the vessel operator deploys any material that has the potential for entangling marine mammals or sea turtles only for as long as necessary to perform its task, and then immediately removes such material from the Project area.</p> <p><b>MM BioMar-10b. Notification.</b> In the unlikely event that a marine mammal or sea turtle is entangled, the Applicant shall require the vessel operator to immediately notify the</p>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	stranding coordinator at NOAA Fisheries in Long Beach and the Santa Barbara Marine Mammal Center so that a rescue effort may be initiated.			
<b>BioMar-11: Discharge of Ballast Water Potentially Containing Exotic Species</b> A release of ballast water containing exotic species could introduce exotic species that directly compete with native organisms, affecting the viability of native species (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>BioMar-12: Increase/ Decrease in Fish Abundance or Commercially Important Benthic Species</b> Commercially important fish species could potentially avoid the Project site due to increased human activity and Project-related noise. Additionally, fish and other benthic species could be attracted to the low relief habitat provided by the subsea pipeline, decreasing abundance in other heavily fished areas (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>TERRESTRIAL BIOLOGY (Section 4.8)</b>				
<b>TerrBio-1: Temporary Increase in Sedimentation</b> Construction activities could cause increased sedimentation and soil erosion, and expose contaminated soils during trenching activities (Class II).	<b>AM TerrBio-1a. Erosion Control.</b> To minimize sedimentation, the Applicant would implement measures during construction. <b>MM TerrBio-1b. Spill Containment/Management.</b> The Applicant shall implement measures to control and manage spills. <b>MM WAT-4a. Strategic Location for Drilling Fluids and Cuttings Pit.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p><b>TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants</b></p> <p>Upland vegetation removal during onshore pipeline construction, maintenance, and repair activities could result in the loss of special status plants (Class II).</p>	<p><b>AM TerrBio-2a. Pre-Construction Plant Surveys.</b> The Applicant would conduct additional pre-construction surveys according to appropriate survey protocols for special status species, and any federally listed species specified by the USFWS or the CDFG.</p> <p><b>AM TerrBio-2b. Biological Resources Mitigation and Monitoring Plan (BRMIMP).</b> Additional surveys would be conducted within any areas potentially impacted by Project activities during construction or operation where special status species potentially occur.</p> <p><b>AM TerrBio-2c. Employee Environmental Awareness Program (EEAP).</b> The Applicant would conduct an employee awareness program before groundbreaking to explain the applicable endangered species laws and any endangered species concerns to contractors working in the area.</p> <p><b>AM TerrBio-2d. Biological Monitoring.</b> The Applicant would use a qualified Biological Monitor to conduct and supervise the EEAP program and to conduct on-site biological monitoring.</p> <p><b>AM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW).</b> The Applicant would limit all proposed roadway construction to the existing roadway surface wherever special status plant species or habitats occur adjacent to the roadway.</p> <p><b>MM TerrBio-2f. Riparian Avoidance and Restoration.</b> The Applicant shall avoid, minimize, and compensate for impacts on riparian habitat during construction due to trenching or open cut crossings of waters of the U.S.</p> <p><b>MM TerrBio-2g. Tree Avoidance and Replacement.</b> The Applicant shall, to the extent possible, avoid, minimize, and compensate for impacts on trees.</p>	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

<b>Impact</b>	<b>Mitigation Measure</b>	<b>Location</b>	<b>Responsible Agency</b>	<b>Timing</b>
<b>TerrBio-3:</b> <i>Temporary or Permanent Changes to Wetlands or Waters of the U.S. during Construction</i> Construction (such as trenching) in wetlands or waters of the U.S. could remove vegetation, disrupt the hydrology of the wetlands within and adjacent to the construction area, or alter the habitat for special status plant species (Class II).	<b>MM TerrBio-3a. Avoid, Minimize, or Reduce Impacts on Wetlands.</b> Impacts on wetlands or waters of the U.S. shall be avoided, minimized, or reduced. <b>MM TerrBio-2f. Riparian Avoidance and Restoration.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>TerrBio-4:</b> <i>Permanent Impact Caused by Noxious Weed Invasion</i> Construction-related disturbance could provide an opportunity and seedbed for the invasion of weeds, which could adversely affect special status plant species or habitats and upland vegetation (Class III).	<b>AM TerrBio-4a. Weed Management.</b> The Applicant would implement measures to prevent the spread of invasive weeds.	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>TerrBio-5:</b> <i>Direct Permanent Impact on Wildlife Mortality</i> Construction activities associated with pipeline installation, staging areas, HDD or HDB locations, and access roads could cause the mortality of small mammals, reptiles, and other less-mobile species (Class II).	<b>AM TerrBio-2c. Employee Environmental Awareness Program (EEAP).</b> <b>AM TerrBio-2d. Biological Monitoring.</b> <b>MM TerrBio-5a. Preconstruction Wildlife Surveys.</b> To minimize the potential for causing mortality of local wildlife, the Applicant shall engage a qualified wildlife biologist to conduct additional pre-construction surveys in advance of any vegetation clearing, or excavation or other activity that causes disturbance to surface soils.	Onshore	USCG/CSLC	Pre- Construction, Construction

Table 6.1-1 Mitigation Monitoring Program				
Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>CULTURAL RESOURCES (Section 4.9)</b>				
<b>CULT-1: <i>Marine Archaeological Sites and Artifacts</i></b> The Project could violate cultural resource standards or cause an adverse change in archaeologically significant resources in offshore Project areas (Class III).	<b>AM CULT-1a. Marine Archaeological Surveys.</b> <b>Additional</b> marine archaeological surveys would be performed to confirm the location of and gather further information on the submerged objects determined to be subject to potential impact from the Project. Shipwrecks or other underwater cultural resources identified as culturally significant would be avoided. Pipelaying barges would use dynamic positioning rather than anchoring at locations along the route to avoid impacts on potential cultural resources.	Offshore	USCG/CSLC	Pre- Construction, Construction
<b>CULT-2: <i>Native American Values</i></b> The Project could violate cultural resource standards by impacting resources that are of value to Native American culture and heritage, particularly descendents of the Ventura Chumash (Class III).	<b>AM CULT-2a. Site Avoidance.</b> The Applicant would avoid identified sites to the maximum feasible extent and adhere to State of California burial remains legislation and the Native American Graves Protection and Repatriation Act as applicable. <b>AM CULT-2b. Native American Values.</b> The Applicant would incorporate the following measures to avoid impacts on Native American values: <ul style="list-style-type: none"> <li>• Native American monitoring would be included in Project-related activities that result in disturbance of surface and subsurface components of archaeological sites;</li> <li>• Artifacts recovered from archaeological sites would be curated at a qualified museum or historical facility that allows access to Native Americans;</li> <li>• Procedures specified in CEQA 15064.5(e) and Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would be implemented if human remains are discovered in the Project area; and</li> <li>• Oak trees and other plants and animals of local Native American concern would be avoided, and impacts to native plants would be minimized by allowing collection</li> </ul>	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>of herbs before construction and by relocating and replanting grasses. If such resources are unavoidable during Project construction or maintenance, further investigations in the form of complete documentation would be implemented. All such investigations would include Native American participation where mandated by Federal, State, and local law.</p> <p><b>AM CULT-1a. Marine Archeological Surveys.</b>  <b>AM CULT-3a. Archaeological Monitoring.</b>  <b>AM CULT-3b. Unanticipated Discovery Plan.</b>  <b>AM CULT-3c. Preconstruction Pedestrian Survey.</b></p>			
<p><b>CULT-3: Terrestrial Historic or Archaeological Resources</b>  The Project could violate cultural resource standards, cause an adverse change in the significance of an historic or archaeological resource, or disturb human remains in onshore Project areas (Class III).</p>	<p><b>AM CULT-3a. Archaeological Monitoring.</b> A qualified archaeologist would monitor all construction within 328 feet (100 m) of archaeological sites and areas with high potential for the occurrence of sites buried under alluvium, including the shoreline crossing. If sites are identified during the monitoring phase of construction, the archaeologist would be empowered to stop all construction activities in the vicinity of the find and evaluate the resource. Such evaluation would require a Phase 2 subsurface testing and evaluation program. If remains prove to be significant and site avoidance cannot be implemented through Project redesign, a Phase 3 data recovery program would be implemented to mitigate impacts.</p> <p><b>AM CULT-3b. Unanticipated Discoveries Plan.</b> To ensure compliance with mitigation measures, a cultural resources management plan would be developed pursuant to all relevant Federal, State, and local cultural resources guidelines and criteria, including CEQA Guidelines § 15064.5 (e). The plan includes an overview of the regulations that apply in the event of an unanticipated discovery, and identifies specific steps to be undertaken for treatment or discovery of remains. The plan covers:</p>	Onshore	USCG/CSLC	Pre-Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<ul style="list-style-type: none"> <li>• Authority to halt construction;</li> <li>• Procedures when skeletal remains are found;</li> <li>• Protection while awaiting recommendations from most likely descendants;</li> <li>• Treatment as recommended by most likely descendants;</li> <li>• Reporting; and</li> <li>• Curation of archaeological material not associated with human remains.</li> </ul> <p><b>AM CULT-3c. Preconstruction Pedestrian Survey.</b> The Applicant would employ a qualified archaeologist to conduct a preconstruction pedestrian survey over any segments of the route that have not already been surveyed. If unanticipated surface evidence of an archaeological site is observed, impacts on the site would be avoided.</p>			
<b>ENERGY (Section 4.10)</b>				
<p><b>ENE-1: Access to Oil and Gas Resources</b> The Project may temporarily limit access to or availability of onshore mineral resources such as sand/gravel and oil/gas production (Class III).</p>	None.	Onshore	USCG/CSLC	N/A
<p><b>ENE-2: Create Significant Effects on Local or Regional Energy Supplies</b> The Project would have a beneficial impact on local and regional energy supplies (Class IV).</p>	N/A - beneficial impact.	Onshore (Regional)	USCG/CSLC	N/A
<b>GEOLOGY (Section 4.11)</b>				
<p><b>GEO-1: Worsens Existing Unfavorable Geologic Conditions and/or Releases Toxic or Other</b></p>	<p><b>AM GEO-1a. Drilling Location.</b> The Applicant or its representative would locate the onshore entry and offshore exit points for HDB the drilling at the shore crossing outside</p>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p><i>Damaging Material into the Environment</i></p> <p>Construction activities could temporarily worsen existing unfavorable geologic conditions (Class II).</p>	<p>of the area affected by normal storms. In addition, the pipeline would be buried deep enough to prevent surfacing due to storm erosion.</p> <p><b>AM TerrBio-1a. Erosion Control.</b></p> <p><b>MM GEO-1b. Backfilling, Compaction, and Grading.</b> Following construction of the onshore pipelines, the Applicant or its designated representative shall properly backfill and compact the right-of-way as defined by standard construction practices, and grade the trench to preexisting contours and revegetate/restore the landscape to preexisting conditions and to prevent preferential flow paths, erosion, or subsidence.</p> <p><b>MM WAT-3a. Drilling Fluid Release Monitoring Plan.</b></p>			
<p><b>GEO-2:</b> <i>Cause a Loss of a Unique Paleontological Resource</i></p> <p>Construction activities could disturb or destroy paleontological resources; such impacts are typically permanent (Class II).</p>	<p><b>MM GEO-2a. Inspection.</b> The Applicant or its designated representative shall have a qualified paleontologist complete a paleontological inspection prior to excavating in the suspect areas.</p>	Onshore	USCG/CSLC	Pre- Construction, Construction
<p><b>GEO-3:</b> <i>Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines, Ground Shaking, or Seismic-related Ground Failure</i></p> <p>Damage to pipelines or other facilities could occur due to direct rupture (ground offset) along fault lines (Class II).</p>	<p><b>AM GEO-3a. Avoidance.</b> The Applicant would avoid crossing known active fault zones, where possible.</p> <p><b>AM GEO-3b. Pipeline Flexibility.</b> Except for the shore crossing, where the pipelines would be installed beneath Ormond Beach, the Applicant would install the offshore pipelines directly on the seabed surface to allow enhanced flexibility (compared with a buried pipeline) and to help them withstand movement caused by fault rupture. Under normal conditions (not due to mass movement) some sediment may cover the pipelines; however, minor sediment should not affect the flexibility of the pipelines. Pipeline routes would also be designed to cross potential faults at as much as a right angle as possible. Offset of pipelines crossing strike-</p>	Onshore and Offshore	USCG/CSLC	Pre-Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>slip or normal faults at right angles induces tension in the pipe, rather than compression. Pipelines can withstand significant offset when in tension.</p> <p><b>MM GEO-3c. Geotechnical Studies.</b> The Applicant shall complete final site-specific seismic hazard studies, to be approved by the CSLC and USCG, prior to construction.</p> <p><b>MM GEO-3d. Design and Operational Procedures.</b> The Applicant shall evaluate larger trench, engineered backfill, thicker wall pipe, shutoff valves placed on either side of fault crossings, and telemetric control for final pipeline design.</p>			
<p><b>GEO-4:</b> <i>Cause Severe Damage to Project Components as a Direct Consequence of a Geologic Event, Releasing Toxic or Other Damaging Materials into the Environment</i></p> <p>Ground shaking from earthquakes, which is of a transitory and sporadic nature, could damage Project components (Class II).</p>	<p><b>MM GEO-4a. Design for Ground Shaking.</b> The Applicant shall employ proper seismic design that would allow pipelines and other structures to withstand intense ground shaking without collapsing or rupturing.</p>	Onshore and Offshore	USCG/CSLC	Pre- Construction, Construction
<p><b>GEO-5:</b> <i>Damage a Pipeline due to Landslides, Mudflow, Lateral Spreading, Subsidence, Liquefaction, or Collapse as a Result of Locating the Project on a Geologic Unit or Soil that is Unstable</i></p> <p>Mass movement, which is of a transitory and sporadic nature, could damage pipelines or structures (Class II).</p>	<p><b>AM GEO-5a. Avoid Areas of Mass Movement.</b> To the extent possible, the Applicant would avoid areas of soil susceptible to mass movement and areas of steeper slopes.</p> <p><b>MM GEO-3c. Geotechnical Studies.</b></p>	Offshore	USCG/CSLC	Pre- Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>GEO-6: Damage to Pipelines from Tsunamis</b> Tsunamis, which are transitory and sporadic in nature, could damage near-shore pipelines or facilities due to the typical force and erosive nature of these storms (Class III).	<b>AM GEO-6a. Pipeline Burial.</b> The pipeline at the shore crossing would be buried at least 50 feet (15.2 m) below the surface of the beach and deeply enough below sea level to minimize the potential of frac outs. This will also avoid potential damage from tsunamis.	Offshore, Nearshore	USCG/CSLC	Pre- Construction, Construction
<b>HAZARDOUS MATERIALS (Section 4.12)</b>				
<b>HAZ-1: Release of Oil or Hazardous Materials and Contamination of Marine Environment due to Offshore Operations</b> Improper handling of hazardous materials or leaks in containers on the FSRU could result in a release to the marine environment or exposure of workers or the public (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>HAZ-2: Release of Oil or Hazardous Materials Spills Could Result in Soil Contamination due to Pipeline Construction Activities</b> Activities associated with site preparation, construction, and drilling, as well as operations and maintenance activities, could result in an accidental spill of hazardous materials or oil and exposure of workers or the public (Class II).	<b>AM HAZ-2a. Use Best Management Practices.</b> The Applicant, or its designated representative, would store hazardous materials in temporary staging areas on pallets within fenced and secured areas and protected from exposure to weather. <b>MM HAZ-2b. Maintain Equipment.</b> The Applicant, or its designated representative, shall maintain equipment in good operating condition to reduce the likelihood of fuel or oil line breaks and leakage. Any vehicles with chronic or continuous leaks shall be removed from the construction site and repaired before being returned to operation. <b>MM HAZ-2c. Hazardous Material Contingency Plan.</b> The Applicant, or its designated representative, shall prepare a detailed hazardous material contingency plan that defines how the contaminated soil and/or groundwater is to be	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	handled and disposed and training for personnel. <b>MM WAT-3a. Drilling Fluid Release Monitoring Plan.</b>			
<p><b>HAZ-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater</b></p> <p>Construction activities could unearth existing contaminated sites onshore and offshore, causing potential health hazards to construction workers, the public, and marine and terrestrial ecology (Class II).</p>	<p><b>AM HAZ-3a. Prevent Migration of Contaminated Soils.</b> If buried hazardous materials or contamination are discovered, the Applicant, or its designated representative, would implement best management practices, specifically BMP 2-06 "Contaminated Soil Management," to prevent migration of contaminated soils or other materials off site. This may include covering an area of contaminated soil with tarps to prevent contaminated dust from blowing off site during windy conditions or providing containment to collect and store stormwater that may have become contaminated.</p> <p><b>MM HAZ-3b. Consult with DTSC Regarding Cleanup of Soil and Groundwater at Whittaker-Bermite Site (MP 0.2 to 1.25).</b> Soil contamination in Operable Unit 2 immediately adjacent to or within the proposed pipeline route is expected to be cleaned up by 2006 and certified as such by DTSC. The Applicant or its designated representative shall coordinate with the DTSC to identify potential soil and/or groundwater contamination hazards present in the proposed pipeline alignment and to determine whether additional surveys or screening-level sampling are warranted in areas to be disturbed by pipeline construction prior to any construction. To confirm that the appropriate level of coordination occurs with the DTSC, the Applicant, or its designated representative, shall submit a letter detailing the results of consultation with the DTSC and any specific measures that are to be implemented during construction to the USCG and the CSLC, with a copy to the DTSC, 60 days prior to initiating construction. The CSLC would assist the Applicant, or its designated representative, with DTSC consultation, if requested by the Applicant, or its designated representative.</p>	Onshore, Offshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>MM HAZ-3c. Onshore Surveys.</b> In areas where the proposed pipeline alignments diverge from existing ROWs, the Applicant, or its designated representative, shall conduct additional surveys to identify potential areas of soil and/or groundwater contamination. If contaminated sites are identified, the Applicant, or its designated representative, shall implement its Hazardous Material Contingency Plan and implement best management practices.			
<b>HAZ-4: Potential Disturbance or Detonation of Unexploded Ordnance due to Onshore or Offshore Construction</b> Offshore pipeline installation and onshore pipeline construction activities could encounter UXO, causing an explosion that could result in serious injuries or fatalities to workers or the public, and—for offshore locations—serious injuries or fatalities to marine life from subsurface blast pressures (Class II).	<b>MM HAZ-4a. Offshore Surveys.</b> The Applicant shall conduct additional surveys at the offshore pipeline installation within and near the Point Mugu Sea Range to locate visible and shallowly buried UXO that might be disturbed by pipeline installation. <b>MM HAZ-4b. Coordination with the California Department of Toxic Substances Control.</b> The Applicant, or its designated representative, shall coordinate with the DTSC before any surveys or construction activities at parts of the Line 225 Pipeline Loop route on or near the Whittaker-Bermite site to determine whether additional UXO surveys would be warranted and shall ensure that those surveys are conducted if deemed necessary. The Applicant, or its designated representative, shall submit a letter to the CSLC and the USCG with a copy to the DTSC documenting the outcome of coordination and the status of follow-up 60 days prior to beginning construction.	Onshore and Offshore	USCG/CSLC	Pre- Construction
<b>LAND USE (Section 4.13)</b>				
<b>LU-1: Changes in Existing Land Use</b> Implementation of the Project would change an existing land use (Class III).	<b>AM AGR-1a. Compensation for Temporary and Permanent Loss of Agricultural Land, Crop Loss, Future Loss of Production, and Other Negative Impacts.</b>	Onshore	USCG/CSLC	Pre- Construction, Post- Construction,

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>LU-2: Disruption to Adjacent Properties</b> Construction may cause temporary disturbances or nuisances to nearby residents and businesses or to special land uses (Class II).	<b>AM LU-2a. Minimize Disruption for Residences, Businesses, and Special Land Uses in or near the Construction Area.</b> The Applicant or its designated representative would minimize disruption in residential and business areas during construction. <b>AM LU-2b. Reduce Disruption for Residences Within 25 Feet (7.6 m) of the Construction Work Area.</b> The Applicant would further reduce disruption in residential areas during construction. <b>AM AIR-2a. Fugitive Dust Controls.</b> <b>MM LU-2c. Coordinate with Other Utilities.</b> Before construction, coordinate with other utility service providers to ensure conflicts with other maintenance or construction activities are minimized during construction. <b>MM NOI-6c. Post Signs.</b> <b>MM NOI-6d. Equipment Location.</b> <b>MM TRANS-2a. Traffic Control Plans.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>NOISE (Section 4.14)</b>				
<b>Offshore</b>				
<b>NOI-1: Noise Generated During the Installation of the Floating Storage and Regasification Unit (FSRU) and Offshore Pipelines</b> Noise generated by vessels or equipment during installation of the mooring system, FSRU, and offshore pipelines could result in temporary increases in noise levels in the area, which could impact sensitive noise receptors such as recreational boaters or fishers (Class II).	<b>AM MT-1a. Safety Vessel Warnings.</b> <b>MM NOI-1a. Efficient Equipment Usage.</b> The Applicant shall: <ul style="list-style-type: none"> <li>• Operate construction equipment only on an as-needed basis during this period, and to maintain it to the manufacturer's specifications. This will serve to reduce the number of noise producing events.</li> <li>• Ensure that equipment engine covers are in place and mufflers are in good working condition for the installation of the mooring system, FSRU, and offshore pipeline.</li> <li>• Require that prospective contractors for the offshore pipeline installation address noise reduction measures in their respective bid proposals, such as (1) the extent to which they will use engines with lower noise ratings,</li> </ul>	Offshore	USCG/CSLC	Pre- and Post-Construction, Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	(2) phased construction activities to reduce simultaneous operations of engines, and (3) all other practices they would follow to reduce equipment noise emissions. <b>MM MT-1c. Notices to Mariners.</b>			
<b>NOI-2: Long-Term Noise Generated During FSRU Operations</b> Recreational boaters and fishers at certain distances from the facility could hear noise generated by FSRU operations over the long-term (Class I).	None.	Offshore	USCG/CSLC	N/A
<b>NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations</b> LNG carriers, crew boats and supply vessels, or helicopters could temporarily increase noise levels for sensitive receptors, such as recreational boaters and fishers (Class I).	<b>AM NOI-3a. Daytime Operations.</b> The Applicant would operate crew boats, supply vessels, and helicopters during daytime hours, except during emergencies. The operation of these vessels would be less disturbing to during daytime hours when there is more background noise and people are generally involved activities which do not require lower noise levels. <b>AM AIR-5b. Reduced Vessel Traffic Between the FSRU and Port Hueneme.</b>	Offshore	USCG/CSLC	Pre- Construction, Construction, Operations
<b>NOI-4: Temporary Noise Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques</b> HDB at the shore crossing and HDD or other drilling techniques at onshore waterways and intersection crossings could temporarily increase noise levels for sensitive receptors. Noise levels could exceed local noise	<b>AM NOI-4a. Construction Noise Reduction Measures.</b> Monitoring; enclose power unit; noise barriers. Enclose mud pumps and engines; enclose generator sets; partially enclose mud mixing; provide engine compartment treatments; modify backup alarms; orient loading bins; restrict use of mobile equipment; enclose light set engines; temporary hay bales as noise barriers; place silencers on all engines. <b>MM NOI-4b. Use Noise Blankets.</b> During Project construction noise blankets shall be used to fully enclose equipment associated with tunneling, if residences are		USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
ordinances or permit conditions (Class I).	<p>located within 2,000 feet (610 m) and work occurs after 6 p.m.</p> <p><b>MM NOI-4c. Limit Heavy Equipment Activity near Residences.</b> Heavy equipment activity adjacent to residences shall be limited to the shortest possible period required to complete pipeline installation.</p> <p><b>MM NOI-4d. Cover the Equipment Engine.</b> The equipment engine shall be covered and the Applicant shall ensure that mufflers are in good working condition.</p> <p><b>MM NOI-4e. Establish Telephone Hotline.</b> A phone number should be established and publicized for members of the public to call should they have a noise or vibration complaint.</p> <p><b>MM NOI-4f. Establish Procedures.</b> Establish procedures to stop or curtail work or add additional measures to respond to any noise or vibration complaints or exceedences of any ordinances.</p>			
<b>NOI-5:</b> <i>Temporary Vibration Generated During Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities</i> HDB, HDD, boring, trenching, and other construction activities could temporarily create vibration levels at sensitive receptors (Class I).	<p><b>AM NOI-4a. Construction Noise Reduction Measures.</b></p> <p><b>MM NOI 4c. Limit Heavy Equipment Activity Near Residences.</b></p> <p><b>MM NOI-5a. Restricted Work Hours.</b> The Application or its designated representative shall ensure that work hours are restricted for pipeline construction activities, with the exception of HDB, involving motorized equipment from 7 a.m. to 7 p.m. Monday through Saturday.</p>	Offshore and Onshore	USCG/CSLC	Pre- Construction, Construction
<b>NOI-6:</b> <i>Noise Generated During Construction of the Onshore Pipeline</i> Site preparation, pipeline installation, and construction of aboveground facilities could temporarily increase noise levels for sensitive receptors,	<p><b>AM NOI-4a. Construction Noise Reduction Measures.</b></p> <p><b>MM NOI-6a. Post Signs.</b> The Applicant or its designated representative shall post signs along the construction right-of-way with approximate schedule and contact information.</p> <p><b>MM NOI-6b. Equipment Location.</b> The Applicant or its</p>	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

<b>Impact</b>	<b>Mitigation Measure</b>	<b>Location</b>	<b>Responsible Agency</b>	<b>Timing</b>
such as schools and residences. Noise levels may exceed county and/or city noise ordinances or permit conditions during the installation of the onshore pipeline and associated structures (Class I).	designated representative shall locate stationary equipment, such as compressors and welding machines, away from the noise receptors to the extent practicable. <b>MM NOI 4c. Limit Heavy Equipment Activity Near Residences.</b> <b>MM NOI-4d. Cover the Equipment Engine.</b> <b>MM NOI-4e. Establish Telephone Hotline.</b> <b>MM NOI-4f. Establish Procedures.</b> <b>MM NOI-5a. Restricted Work Hours.</b>			
<b>NOI-7: Noise Generated by Traveling to the Construction Site</b> Additional vehicular traffic carrying workers, equipment, and materials to the construction sites could temporarily increase noise levels for residences, schools, places of worships, or hospitals (Class III).	None.	Onshore	USCG/CSLC	N/A
<b>NOI-8: Noise Generated During Onshore and Associated Facilities Operations</b> Operations of the aboveground facilities may exceed county and/or city noise ordinances or permit conditions for the long-term (Class II).	<b>AM NOI-4a. Construction Noise Reduction Measures.</b> <b>MM NOI-4c. Limit Heavy Equipment Near Residences.</b> <b>MM NOI-4d. Cover the Equipment Engine.</b> <b>MM NOI-5a. Restricted Work Hours.</b> <b>MM NOI-4f Establish Procedures.</b> <b>MM NOI-6a. Post Signs.</b> <b>MM NOI-6b. Equipment Location.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>RECREATION (Section 4.15)</b>				
<b>REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing during Construction and Temporary Reductions of Fish Catch</b> Construction activities would temporarily restrict recreational	None.	Offshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
boating and recreational marine fishing (Class III).				
<b>REC-2:</b> <i>Restricted Recreational Fishing Due to Area to be Avoided</i> Operational activities could restrict offshore recreational activities because of the creation of a 2 NM (2.3 miles or 3.7 km) Area to be Avoided around the FSRU, and a safety zone around the LNG vessels (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>REC-3:</b> <i>Reduce the Quality of the Offshore Recreational Experience</i> During Project operations, the presence of the FSRU would alter the recreational experience of recreational boaters, including visitors on whale-watching trips and other visitors to the CINP (Class I).	None.	Offshore	USCG/CSLC	N/A
<b>REC-4:</b> <i>Reduce the Recreational Experiences at or Restrict Access to Ormond Beach</i> Construction or maintenance activities at the shore crossing could temporarily impede recreational uses or degrade recreational experiences at Ormond Beach because of the noise, dust, and light generated during construction and repairs or due to accidental release of drilling fluids or a gas leak (Class III).	None.	Onshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

<b>Impact</b>	<b>Mitigation Measure</b>	<b>Location</b>	<b>Responsible Agency</b>	<b>Timing</b>
<b>REC-5:</b> <i>Reduce or Restrict Access to Parks or Reduce User Enjoyment</i> Construction activities could temporarily restrict access to parks due to increased traffic congestion or other nuisances in the general area of parks in the vicinity of pipeline construction (Class III).	<b>AM REC-5a. Contractor Yard Locations.</b> Contractor yards would be located at least 1 mile (1.6 km) away from park and recreation areas. <b>MM Trans-2a. Traffic Control Plans.</b>	Onshore	USCG/CSLC	Construction
<b>REC-6:</b> <i>Reduce or Restrict Access to Trails</i> Construction activities for the Line 225 Pipeline Loop would temporarily close the multi-use trails along the South Fork Santa Clara River (Class II).	<b>MM REC-6a. Trail Closure Signage and Information.</b> The Applicant or its designated representative shall post signs and disseminate information to the public about the multi-use trail along the South Fork Santa Clara River stating how long the trail will be closed, when it will be restored, and alternate routes. <b>MM REC-6b. Trail Restoration.</b> The Applicant or its designated representative shall restore the multi-use trail along the South Fork Santa Clara River to its previous condition before construction within 21 days after completion of the section of the pipeline along the trail.	Onshore	USCG/CSLC	Pre- and Post-Construction
<b>SOCIOECONOMICS (Section 4.16)</b>				
<b>SOCIO-1:</b> <i>Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas</i> The long-term and temporary exclusion of commercial fishers from fishing grounds could decrease catch revenues for commercial fisheries (Class II).	<b>AM SOCIO-1a. Compensation for Lost Gear.</b> As a member of the Oil Caucus of the Joint Oil/Fisheries Committee of South Central California, the Applicant would negotiate mitigation for impacts on fishers using guidance from existing Joint Oil/Fisheries Committee guidelines for lost or damaged gear according to the existing guidelines. <b>AM MT-1a. Safety Vessel Warnings.</b> <b>AM MT-1b. Automatic Identification System.</b> <b>AM MT-2b. Established Routes to and from Port Hueneme.</b> <b>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors.</b>	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<b>MM SOCIO-1b. Arbitration.</b> If there is a complaint by a fisher related to impacts from the Project, a mutually agreed-upon settlement shall be reached between the Applicant and injured party. An arbitrator shall become involved if the voluntary negotiation is not concluded within three months and will be compensated by the Applicant.			
<b>SOCIO-2: Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear</b> The loss of commercial fishing gear from pipelines and supply boat traffic could decrease commercial fisheries revenues (Class II).	<b>AM SOCIO-1a. Compensation for Lost Gear.</b> <b>AM MT-2b. Established Routes to and from Port Hueneme.</b> <b>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors.</b> <b>MM SOCIO-1b. Arbitration.</b> <b>MM MT-1c. Notices to Mariners.</b> <b>MM MT-1d. Securite Broadcasts.</b> <b>MM MT-1e. Safety Vessel.</b>	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations
<b>SOCIO-3: Increase in Regional Fishing Pressure</b> The permanent exclusion of commercial fishing from fishing grounds could increase fishing pressure in other areas or reduce the catch, resulting in negative economic impacts (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>SOCIO-4: Small Increased Demand for Public Services</b> The Project would cause a slight increased demand for public services during construction and operations (Class III).	None.	Onshore	USCG/CSLC	N/A

Table 6.1-1 Mitigation Monitoring Program				
Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>TRANSPORTATION (Section 4.17)</b>				
<b>TRANS-1:</b> <i>Temporary Increase in Traffic at LOS E Intersection</i> Construction of the Center Road Pipeline or alternate routes could temporarily affect an intersection that is already at LOS E (Class I).	<b>MM TRANS-1a. Avoid Peak Traffic Periods.</b> The Applicant or its designated representative shall avoid pipeline construction and construction related trips on SR 118 (Los Angeles Avenue) during peak hours, i.e., between 6:30 a.m. to 9:00 a.m. and between 3:30 p.m. to 6:30 p.m., Monday through Friday.	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>TRANS-2:</b> <i>Temporary Increase in Traffic</i> During construction, the addition of the construction-related workforce and material deliveries to and from staging areas could temporarily increase traffic during peak construction periods (Class II).	<b>MM TRANS-2a. Traffic Control Plans.</b> Two traffic control plans shall be prepared by a registered professional engineer in accordance with the Work Area Protection and Traffic Control Manual (1999): one for the Center Road Pipeline and one for Line 225 Pipeline Loop. (See full text of mitigation measure for required elements of traffic control plans and approval requirements.) <b>MM TRANS-2b. Notification, Schedule Shifts, Carpooling.</b> During construction, the Applicant or its designated representative shall enact best management practices approved by CalTrans and/or the affected local government, such as notification, schedule shifts, and carpooling, to minimize increases in traffic.	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>TRANS-3:</b> <i>Temporary Traffic Lane Closures</i> The Project could restrict one or more lanes of major roads, disrupting local traffic flow during peak hours (Class II).	<b>MM Trans-1a. Traffic Control Plans.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>TRANS-4:</b> <i>Temporarily Reduced On-Street Parking Access</i> Construction could temporarily restrict residential on-street parking access (Class III).	None.	Onshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>TRANS-5: Temporary Closure of Bike Routes</b> Construction could result in temporary closure and/or restricted access to bike paths crossed by the onshore pipelines, which could adversely affect the safety of bicyclists. (Class II)	<b>MM TRANS-5a. Bike Detour Lanes.</b> Where bike paths are closed, the Applicant or its designated representative shall provide an alternative bike route, provide signs and notice of the pending closure at least 30 days prior to commencement of work at the affected location, and ensure that the route remains posted until the access is restored to its pre-construction condition. <b>MM TRANS-5b. Repair Damage to Bike Paths.</b> The Applicant or its designated representative shall restore any bike paths damaged as a result of Project construction to their pre-construction condition within 21 days of completion of the bike route-based portion of each alignment. <b>MM TRANS-2a. Traffic Control Plans.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction, Post- Construction
<b>TRANS-6: Damage to Roads During Construction</b> Roads crossed or paralleled by the onshore pipelines, as well as those used to access the Project, could be temporarily damaged by increased traffic and heavy equipment. (Class II)	<b>MM TRANS-6a. Repair Damage to Roads.</b> The Applicant or its designated representative shall repair to pre-construction conditions any damage to roads that occurs as a result of the Project within 21 days of completion of the road-based portion of each alignment or in accordance with local road encroachment permit conditions determined prior to construction, whichever is less. In addition, where a roadway has been rehabilitated within the past five years, the Applicant or its designated representative shall provide a full width overlay after trenching is completed. The Applicant or its designated representative shall negotiate with the appropriate jurisdiction regarding videotaping of existing roadways prior to construction and mitigation fees to be deposited into a trust fund.	Onshore	USCG/CSLC	Post- Construction
<b>WATER QUALITY AND SEDIMENTS (Section 4.18)</b>				
<b>WAT-1: Temporary Degradation of Offshore Water Quality due to Accidental Discharges</b> Accidental discharges of petroleum,	None.	Offshore	USCG/CSLC	N/A

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
sewage, or other contaminants from vessels during offshore construction and installation activities could temporarily degrade offshore water quality. (Class III)				
<b>WAT-2: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction</b> The installation of the FSRU and subsea pipelines could disturb seafloor sediments or release drill cuttings or fluids, causing a short-term increase in turbidity or accidental unearthing of contaminants. (Class III)	None.	Offshore	USCG/CSLC	N/A
<b>WAT-3: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids</b> Accidental releases of drilling fluids at the shore during construction could degrade surface water or groundwater quality for the short term. (Class II)	<b>MM WAT-3a. Drilling Fluid Release Monitoring Plan.</b> The Applicant shall implement its Drilling Fluid Release Monitoring Plan to minimize the potential for releases of drilling fluids, to properly clean up drilling fluids in the event of a release, and notify appropriate agencies should a release occur. The Plan (see Appendix D1) would incorporate best management practices to reduce the impacts from releases of drilling fluids, including the following: <ul style="list-style-type: none"> <li>• Maintaining containment equipment for drilling fluids on site;</li> <li>• Adding a non-toxic color dye to the drilling fluids to easily and quickly detect release of drilling fluids;</li> <li>• Ensuring that a qualified environmental monitor or suitably trained water quality specialist is onsite full time near sensitive habitat areas during HDB activities;</li> <li>• Stopping work immediately if there is any detection of bentonite seeps into surface water or sensitive habitats,</li> </ul>	Onshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	<p>for example, by a loss in pressure or visual observation of changes in turbidity or surface sheen;</p> <ul style="list-style-type: none"> <li>• Reporting all bentonite seeps into waters of the State or sensitive habitat immediately to the Project's resource coordinator, the CSLC, the Los Angeles RWQCB, and the appropriate resource agencies: National Oceanic and Atmospheric Administration Fisheries, U.S. Fish and Wildlife Service, the U.S Army Corps of Engineers, the California Department of Water Resources, the California Reclamation Board, the applicable city (Oxnard or Santa Clarita) and county (Ventura or Los Angeles); and</li> <li>• Cleaning up and properly disposing of any release of drilling fluids to the satisfaction of regulatory agencies.</li> </ul>			
<p><b>WAT-4:</b> <i>Short-Term Increase in Erosion due to Construction Activities</i></p> <p>HDD and trenching at stream crossings, including release of hydrostatic test water, could cause short-term increases in erosion. (Class II)</p>	<p><b>AM TerrBio-1a. Erosion Control.</b></p> <p><b>MM WAT-4a. Strategic Location for Drilling Fluids and Cuttings Pit.</b> The Applicant or its designated representative shall ensure that a pit has been excavated at the HDD exit hole to collect and contain the drilling fluids and cuttings.</p> <p><b>MM WAT-4b. Energy Dissipater for Hydrostatic Test Water Discharge.</b> For the hydrostatic test water discharge, the Applicant or its designated representative shall design and install a suitable energy dissipater at the outlets and design and install suitable channel protection structures.</p> <p><b>MM WAT-4c. Transport Sediment Spoils Off-Site.</b> Sediment spoils that are not utilized to backfill trenches in stream channels shall be transported and disposed of offsite at an approved facility.</p> <p><b>MM WAT-4d. Monitor Stream Crossing Construction.</b> A qualified environmental monitor or suitably trained water quality specialist shall be present at each stream crossing construction site to ensure compliance with applicable permits and mitigation.</p> <p><b>MM GEO-1b. Backfilling, Compaction, and Grading.</b></p>	Onshore	USCG/CSLC	Pre- Construction, Construction, Post-Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<b>Impact WAT-5a:</b> <i>Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other Discharges that do not Meet Water Quality Standards</i> The FSRU could accidentally release small amounts of contaminants, including petroleum, diesel fuel, detergents, or human waste, to marine waters in excess of water quality standards (Class III).	None.	Offshore	USCG/CSLC	N/A
<b>Impact WAT-5b:</b> <i>Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels.</i> An accidental release of diesel fuel to marine waters would violate Federal and State water quality standards or objectives (Class I).	None.	Offshore	USCG/CSLC	N/A
<b>WAT-6:</b> <i>Temporary Degradation of Surface Water Quality During Maintenance Activities</i> Releases of petroleum or other contaminants during maintenance activities could temporarily degrade surface water quality. (Class III)	<b>AM WAT-6a. Best Management Practices at Creek Crossings.</b> Best management practices such as using silt fencing and straw bales would be employed at all creek crossings for major maintenance activities that could result in spills that could enter surface water pathways. <b>AM WAT-6b. Spill Response Plan.</b> The Applicant or its designated representative would prepare a spill response plan to protect surface water at and near the surface water crossings. This plan would be incorporated into the SWPPP as a requirement of the construction storm water NPDES permit and the SPCC plan. The plan would identify specific measures to prevent, contain, and clean up any spills that	Onshore	USCG/CSLC	Pre- Construction, Construction

**Table 6.1-1 Mitigation Monitoring Program**

Impact	Mitigation Measure	Location	Responsible Agency	Timing
	could enter surface water pathways.			
<b>WAT-7: Degradation of Surface Water Quality due to Erosion Caused by Regular Maintenance Activities</b> Regular maintenance of the pipelines could cause erosion and sedimentation of creeks from the use of maintenance vehicles or equipment, leading to short-term violations of water quality standards. (Class III)	<b>AM WAT-6a. Best Management Practices at Creek Crossings.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction
<b>ENVIRONMENTAL JUSTICE (Section 4.19)</b>				
<b>EJ-1: Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1</b> There would be a long-term risk of a pipeline rupture that could cause a fire that would disproportionately adversely affect a minority or low-income community.	<b>AM PS-4a. Class 3 Pipeline Design Criteria.</b> <b>MM PS-4b. Pipeline Integrity Management Program.</b> <b>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</b> <b>MM PS-5a. Treat Manufactured Home Residential Community as an HCA.</b>	Onshore	USCG/CSLC	Pre- Construction, Construction

## 6.2 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6(e)(2) of the State CEQA Guidelines provides in part, “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” If the proposed Project were not approved, or if a similar project with fewer or less significant environmental impacts than the proposed Project were approved, the No Action Alternative would clearly be the environmentally superior alternative. Similar projects, such as other offshore LNG or pipeline facilities, are discussed in Section 3.4.1 in Chapter 3, “Alternatives.” With the information available and the uncertainty of the other potential offshore LNG projects, it is difficult to determine whether the No Action Alternative is the environmentally superior alternative. In addition, only one other offshore alternative to the proposed Project is deemed feasible and analyzed in this document. Accordingly, this document does not identify an environmentally superior alternative within the context of Section 15126.6(e)(2) of the State CEQA Guidelines.

### 6.2.1 Comparison of Proposed Project and SB Channel/Mandalay/Gonzales Road DWP Alternative

While the proposed Project could be built at either location, the proposed project is preferable to the Santa Barbara Channel alternative. The location of the FSRU is outside the traffic separation scheme and farther from land than the Santa Barbara Channel alternative. This location would result in less visual impact, fewer potential conflicts with recreational fishers and boaters, and less impact to commercial fishing. Although it poses a greater potential for conflict with the operations of the Navy Sea Range Point Mugu, these impacts can be mitigated by coordination and communication with the Navy.

The shore crossing at the Reliant Ormond Beach Generating Station that is proposed for the Project is preferable to the Reliant Mandalay Generating Station Shore Crossing because it would have less effect on the sensitive species that are closer to the Mandalay site. The Center Road Pipeline is preferable to the Gonzales Road Pipeline because during its construction it would affect fewer people and less traffic would be disrupted on significant thoroughfares.

### 6.2.2 Comparison of Proposed Project and Shore Crossing Alternatives

Several alternatives to the components that make up the proposed Project were considered. The Reliant Ormond Beach Generating Station Shore Crossing is preferable to the Arnold Road Shore Crossing/Arnold Road Pipeline because it could be constructed entirely on disturbed land, which is not the case for the Arnold Road alternative. It also would avoid the need to locate the HDD drill site on State Coastal Conservancy land (the most likely location for the Arnold Road alternative). Although the meter station and odorant facility would be fenced, it would not be guarded on Arnold Road as it would in its proposed location within the Reliant generating plant site. While the risks of an accident involving a release of either the odorant or unodorized

natural gas is very small, the secure and secluded nature of the Reliant station makes it preferable to the Arnold Road location.

### **6.2.3 Comparison of Proposed Project and Alternative Onshore Pipeline Route Alternatives**

Although similarly protected, the Point Mugu site also would require that the odorant station and meter station be located outside the base property, which makes it slightly less preferable. The Point Mugu site offers the benefit of controlled access during the HDD operations and no beach users would be affected. However, construction would need to be scheduled to avoid sensitive species that use the beach, which would be avoided at the Reliant Ormond Beach facility because the land is already disturbed. Although the Casper Road and Arnold Road Pipelines that would connect the respective shore crossings with the Center Road Pipeline would both be shorter than the proposed Project, the difference in length is insignificant when the fact that the pipelines would be installed in existing road rights-of-way is considered. For these reasons, although any of the three shore crossings could probably be constructed, the Reliant alternative is environmentally preferable.

Any of the proposed pipelines would be required to be designed and operated in compliance with Federal and State laws that would ensure their safe construction and operation; however, there are some observable difference among the alternatives. A number of potential routes were considered, and two alternatives to the Center Road Pipeline were carried forward for analysis, in addition to the Gonzales Road Alternative considered as a component of the Santa Barbara Channel alternative.

The Applicant originally proposed Center Road Alternative 1 as the Project. However, during public scoping, many concerns were expressed regarding this route, and the Applicant developed a new alternative now identified as the Center Road Alternative. Although any of the three pipeline alternatives could be built, the Center Road Alternative would avoid many of the construction related disturbances that affect the public because it would be constructed in existing roadways and other rights-of-way primarily through agricultural areas.

Center Road Alternative 1 (originally the proposed Project) is longer and would affect more High Consequence Areas than the proposed route. While Center Road Alternative 2 crosses even more agricultural areas and poses fewer impacts to businesses, this is a minor difference. It approaches the sphere of influence for Camarillo, and crosses several more water bodies, including Beardsley Wash. It also follows Pleasant Valley Road for a greater distance, which could have greater traffic impacts. Overall, these are relatively small differences, and either pipeline could be environmentally acceptable.

The comparison matrices in tables 6.2-1 (Proposed Offshore Project Components and Alternatives), 6.2-2 (Proposed Onshore Pipeline Project Components and Alternatives), and 6.2-3 (Proposed Shore Crossing Components and Alternatives) below, summarize the comparison of impacts for the proposed Project and Alternatives discussed above.

Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives		
Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component		
Issue Area and Impacts (Offshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project
		Santa Barbara Channel Alternative
Public Safety		
PS-1. Potential Minor Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier	LS	Similar
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack	S	Greater
PS-3. Potential Release of Odorized Natural Gas due to Damage of Subsea Pipelines.	S	Similar
PS-4. Potential Release of Odorized Natural Gas due to Accidental Damage to Onshore Pipelines	S	Greater
PS-5. Increased Potential for Injury, Fatality, and Property Damage Due to Fire or Explosion in Areas with Less Robust Housing Construction and Outdoor Activity.	S	Less
Marine Traffic		
MT-1: Temporary Increase in Maritime Traffic during Installation of the Mooring System, FSRU Mooring, Offshore Pipeline Construction, and Shore Crossing Resulting in Increased Safety Risks	LS	Less
MT-2: Long-Term Increase in Maritime Traffic during Offshore Operations	LS	Greater
MT-3: Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers	LS	Greater
MT-4: FSRU or LNG Carrier Accident Impact on Marine Traffic	LS	Greater
MT-5: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction	LS	Less
MT-6: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex	LS	Similar
Aesthetics		
AES-1: Alter Ocean Views from Onshore and Channel Islands Viewpoints	LS	Greater
AES-2: Alter Nighttime Ocean Views	LS	Greater

<b>Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives</b>		
<i>Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component</i>		
<b>Issue Area and Impacts (Offshore)</b>	<b>Proposed Project Impacts After Mitigation</b>	<b>Impacts Compared to the Proposed Project</b>
		<b>Santa Barbara Channel Alternative</b>
AES-3: Alter Views for Recreational Boaters	S	Less
AES-4: Alter Offshore Views from an Eligible State Scenic Highway	LS	Greater
AES-5: Alter Ocean Views During Construction	LS	Greater
AES-6: Substantial Damage to Onshore Scenic Resources Along a State Scenic Highway	LS	Less
<b>Agriculture and Soils</b>		
AGR-1: Temporary Loss of Agricultural Land		
AGR-2: Permanent Conversion of Agricultural Land to Non-Agricultural Use		
AGR-3: Topsoil Loss, Mixing, and/or Compaction		
AGR-4: Dust Deposition		
AGR-5: Loss of Tree Rows		
AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line		
AGR-7 Alt: Potential for Use of Agricultural Land for Staging Areas.		
AGR -8 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.		
AGR -9 Alt: Potential for Use of Agricultural Land for Staging Areas.		
AGR -10 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.		
<b>Air Quality</b>		
AIR-1: Net Emission Increases of Criteria Pollutants from Construction Activities in Designated Nonattainment Areas.	S	Similar
AIR 2: Violations of Ambient Air Quality Standards Caused by Particulate Emissions from Onshore Construction Activities	S	Similar

<b>Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives</b>		
<i>Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component</i>		
<b>Issue Area and Impacts (Offshore)</b>	<b>Proposed Project Impacts After Mitigation</b>	<b>Impacts Compared to the Proposed Project</b>
		<b>Santa Barbara Channel Alternative</b>
AIR-3: Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an Accidental LNG Spill or Pipeline Rupture	S	Similar
AIR-4: Emissions of Ozone Precursors from the FSRU	LS	Similar
AIR-5: Emissions of Ozone Precursors from Project Vessels Operating in California Coastal Waters	S	Similar
AIR-6: Emissions of Ozone Precursors from Project Construction Activities in Federal Waters	LS	Similar
AIR-7: Temporary Ambient Air Quality Impacts Caused by Air Pollutant Emissions from Onshore and Offshore Construction Activities	LS	Similar
AIR-8: Ambient Air Quality Impacts Caused by Air Pollutant Emissions from the FSRU and Project Vessels	LS	Similar
<b>Biology, Marine</b>		
BioMar-1: Burial of Sessile Marine Biota	LS	Similar
BioMar-2: Temporary Avoidance of the Area Due to Increased Turbidity from Construction Activities Offshore or Accidental HDB Release of Drilling Fluids	LS	Similar
BioMar-3: Temporary or Permanent Alteration or Disturbance of Marine Biota or Sensitive Habitats	LS	Similar
BioMar-4: Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations	LS	Greater
BioMar-5: Noise Disrupting Marine Mammal Behavior	LS	Greater
BioMar-6: Mortality and Morbidity of Marine Biota from Spills	S	Similar
BioMar-7: Discharge of Bilge Water, Gray Water, and Deck Runoff	LS	Similar

<b>Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives</b>		
<i>Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component</i>		
<b>Issue Area and Impacts (Offshore)</b>	<b>Proposed Project Impacts After Mitigation</b>	<b>Impacts Compared to the Proposed Project</b>
		<b>Santa Barbara Channel Alternative</b>
BioMar-8: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals	S	Greater
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles	LS	Greater
BioMar-10: Entanglement of Marine Mammals and Turtles	LS	Greater
BioMar-11: Discharge of Ballast Water Potentially Containing Exotic Species	LS	Similar
BioMar-12: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species	LS	Similar
<b>Biology, Terrestrial</b>		
TerrBio-1: Temporary Increase in Sedimentation		
TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants		
TerrBio-3: Temporary or Permanent Changes to Wetlands or Waters of the U.S. during Construction		
TerrBio-4: Permanent Impact Caused by Noxious Weed Invasion		
TerrBio-5: Direct Permanent Impact on Wildlife Mortality		
<b>Cultural</b>		
CULTURAL-1: Maritime Archaeological Sites and Artifacts	LS	Similar
CULTURAL-2: Native American Value	LS	Similar
CULTURAL-3: Terrestrial Historic or Archaeological Resources		
<b>Energy and Minerals</b>		
ENE-1: Access to Oil and Gas Resources	LS	Similar
ENE-2: Create significant effects on local or regional energy supplies	LS	Similar
<b>Geology</b>		
GEO-1 Worsens Existing Unfavorable Geologic Conditions and/or Releases Toxic or Other Damaging Material into the Environment	LS	Similar
GEO-2 Cause a Loss of a Unique Paleontological Resource	LS	Similar

<b>Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives</b>		
<i>Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component</i>		
<b>Issue Area and Impacts (Offshore)</b>	<b>Proposed Project Impacts After Mitigation</b>	<b>Impacts Compared to the Proposed Project</b>
		<b>Santa Barbara Channel Alternative</b>
GEO-3: Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines, Ground Shaking, or Seismic-related Ground Failure	LS	Similar
GEO-4: Cause Severe Damage to Project Components as a Direct Consequence of a Geologic Event, Releasing Toxic or Other Damaging Materials into the Environment.	LS	Similar
GEO-5: Damage a Pipeline due to Landslides, Mudflow, Lateral Spreading, Subsidence, Liquefaction, or Collapse as a Result of Locating the Project on a Geologic Unit or Soil that is Unstable	LS	Similar
GEO-6: Damage to Pipelines from Tsunamis	LS	Similar
<b>Hazardous Materials</b>		
HAZMAT-1: Release of Oil or Hazardous Materials and Contamination of Marine Environment due to Offshore Operations	LS	Similar
HAZMAT-2: Release of Oil or Hazardous Materials Spills Could Result in Soil Contamination due to Pipeline Construction Activities	LS	Similar
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	LS	Similar
HAZMAT-4: Potential Disturbance or Detonation of Unexploded Ordnance due to Onshore or Offshore Construction	LS	Less
<b>Land Use</b>		
LU-1: Changes in Existing Land Use		
LU-2: Disruption to Adjacent Properties		
<b>Noise and Vibration</b>		
NOI-1: Noise Generated During the Installation of the FSRU and Offshore Pipelines	LS	Similar
NOI-2: Long-Term Noise Generated During FSRU Operations	S	Similar
NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations	S	Similar

<b>Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives</b>		
<i>Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component</i>		
<b>Issue Area and Impacts (Offshore)</b>	<b>Proposed Project Impacts After Mitigation</b>	<b>Impacts Compared to the Proposed Project</b>
		<b>Santa Barbara Channel Alternative</b>
NOI-4: Temporary Noise Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques		
NOI-5: Temporary Vibration Generated During Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities		
NOI-6: Noise Generated During Construction of the Onshore Pipeline		
NOI-7: Noise Generated by Traveling to the Construction Site		
NOI-8: Noise Generated During Onshore Pipeline and Associated Facilities Operations		
<b>Recreation</b>		
REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing during Construction and Temporary Reductions of Fish Catch	LS	Greater
REC-2: Restricted Recreational Fishing Due to Area to be Avoided	LS	Similar
REC-3: Reduce the Quality of the Offshore Recreational Experience	S	Greater
REC-4: Reduce the Recreational Experiences at or Restrict Access to Ormond Beach		
REC-5: Reduce or Restrict Access to Parks or Reduce User Enjoyment		
REC-6: Reduce or Restrict Access to Trails		
<b>Socioeconomics</b>		
SOCIO-1: Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas	LS	Greater
SOCIO -2: Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear	LS	Greater
SOCIO -3: Increase in Regional Fishing Pressure	LS	Greater
SOCIO -4: Small Increased Demand for Public Services		

Table 6.2-1 Comparison Matrix: Proposed Offshore Project Components and Alternatives		
Note: S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component		
Issue Area and Impacts (Offshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project
		Santa Barbara Channel Alternative
Transportation (Onshore)		
TRANS-1: Temporary Increase in Traffic at LOS E Intersection		
TRANS -2: Temporary Increase in Traffic		
TRANS -3: Temporary Traffic Lane Closures		
TRANS -4: Temporary Reduced On-Street Parking Access		
TRANS -5: Temporary Closure of Bike Routes		
TRANS -6: Damage to Roads During Construction		
Water Quality and Sediments		
WAT-1: Temporary Degradation of Offshore Water Quality due to Accidental Discharges	LS	Similar
WAT-2: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction	LS	Similar
WAT-3: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids		
WAT-4: Short-Term Increase in Erosion due to Construction Activities		
WAT-5a: Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other Discharges that do not Meet Water Quality Standards	LS	Similar
WAT-5b: Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels.	S	Similar
WAT-6: Temporary Degradation of Surface Water Quality During Maintenance Activities		
WAT-7: Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities		
Environmental Justice		
EJ-1: Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1	N/A	N/A

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
Public Safety					
PS-1. Potential Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier					
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack					
PS-3. Potential Release of Odorized Natural Gas due to Damage of Subsea Pipelines.					
PS-4. Potential Release of Odorized Natural Gas due to Accidental Damage to Onshore Pipelines	S	Similar	Similar	Similar	Similar
PS-5. Increased Potential for Injury, Fatality, and Property Damage Due to Fire or Explosion in Areas with Less Robust Housing Construction and Outdoor Activity.	S	Similar	Similar	Similar	N/A
Marine Traffic					
MT-1: Temporary Increase in Maritime Traffic during Installation of the Mooring System, FSRU Mooring, Offshore Pipeline Construction, and Shore Crossing Resulting in Increased Safety Risks					
MT-2: Long-Term Increase in Maritime Traffic during Offshore Operations					
MT-3: Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers					
MT-4: FSRU or LNG Carrier Accident Impact on Marine Traffic					
MT-5: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction					
MT-6: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex					

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
Aesthetics					
AES-1: Alter Ocean Views from Onshore and Channel Islands Viewpoints					
AES-2: Alter Nighttime Ocean Views					
AES-3: Alter Views for Recreational Boaters					
AES-4: Alter Offshore Views from an Eligible State Scenic Highway					
AES-5: Alter Ocean Views During Construction					
AES-6: Substantial Damage to Onshore Scenic Resources Along a State Scenic Highway	LS	Similar	Similar	Similar	N/A
Agriculture and Soils					
AGR-1: Temporary Loss of Agricultural Land	LS	Less	Similar	Similar	N/A
AGR-2: Permanent Conversion of Agricultural Land to Non-Agricultural Use	S	Similar	Similar	Similar	N/A
AGR-3: Topsoil Loss, Mixing, and/or Compaction	LS	Less	Similar	Similar	N/A
AGR-4: Dust Deposition	LS	Less	Similar	Similar	N/A
AGR-5: Loss of Tree Rows	LS	Less	Less	Less	N/A
AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line	LS	Less	Similar	Similar	N/A
AGR-7 Alt: Potential for Use of Agricultural Land for Staging Areas.					
AGR -8 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.					
AGR -9 Alt: Potential for Use of Agricultural Land for Staging Areas.					
AGR -10 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.					

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
Air Quality					
AIR-1: Net Emission Increases of Criteria Pollutants from Construction Activities in Designated Nonattainment Areas.	S	Similar	Similar	Similar	Slightly Less
AIR 2: Violations of Ambient Air Quality Standards Caused by Particulate Emissions from Onshore Construction Activities	S	Similar	Similar	Similar	Slightly Less
AIR-3: Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an Accidental LNG Spill or Pipeline Rupture	S	Similar	Similar	Similar	Similar
AIR-4: Emissions of Ozone Precursors from the FSRU					
AIR-5: Emissions of Ozone Precursors from Project Vessels Operating in California Coastal Waters					
AIR-6: Emissions of Ozone Precursors from Project Construction Activities in Federal Waters					
AIR-7: Temporary Ambient Air Quality Impacts Caused by Air Pollutant Emissions from Onshore and Offshore Construction Activities	LS	Similar	Similar	Similar	Slightly Less
AIR-8: Ambient Air Quality Impacts Caused by Air Pollutant Emissions from the FSRU and Project Vessels					
Biology, Marine					
BioMar-1: Burial of Sessile Marine Biota					
BioMar-2: Temporary Avoidance of the Area Due to Increased Turbidity from Construction Activities Offshore or Accidental HDB Release of Drilling Fluids					
BioMar-3: Temporary or Permanent Alteration or Disturbance of Marine Biota or Sensitive Habitats					
BioMar-4: Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations					
BioMar-5: Noise Disrupting Marine Mammal Behavior					

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
BioMar-6: Mortality and Morbidity of Marine Biota from Spills					
BioMar-7: Discharge of Bilge Water, Gray Water, and Deck Runoff					
BioMar-8: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals					
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles					
BioMar-10: Entanglement of Marine Mammals and Turtles					
BioMar-11: Discharge of Ballast Water Potentially Containing Exotic Species					
BioMar-12: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species					
<b>Biology, Terrestrial</b>					
TerrBio-1: Temporary Increase in Sedimentation	LS	Similar	Similar	Similar	Similar
TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants	LS	Less	Similar	Similar	Similar
TerrBio-3: Temporary or Permanent Changes to Wetlands or Waters of the U.S. during Construction	LS	Less	Similar	Similar	Similar
TerrBio-4: Permanent Impact Caused by Noxious Weed Invasion	LS	Less	Similar	Similar	Similar
TerrBio-5: Direct Permanent Impact on Wildlife Mortality	LS	Less	Similar	Similar	Similar
<b>Cultural</b>					
CULTURAL-1: Maritime Archaeological Sites and Artifacts					
CULTURAL-2: Native American Value	LS	Greater	Similar	Similar	Similar
CULTURAL-3: Terrestrial Historic or Archaeological Resources	LS	Greater	Similar	Similar	Similar

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
Energy and Minerals					
ENE-1: Access to Oil and Gas Resources	LS	Similar	Similar	Similar	Similar
ENE-2: Create significant effects on local or regional energy supplies	LS	Similar	Similar	Similar	Similar
Geology					
GEO-1 Worsens Existing Unfavorable Geologic Conditions and/or Releases Toxic or Other Damaging Material into the Environment	LS	Similar	Similar	Similar	Similar
GEO-2 Cause a Loss of a Unique Paleontological Resource	LS	Similar	Similar	Similar	Similar
GEO-3: Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines, Ground Shaking, or Seismic-related Ground Failure	LS	Similar	Similar	Similar	Similar
GEO-4: Cause Severe Damage to Project Components as a Direct Consequence of a Geologic Event, Releasing Toxic or Other Damaging Materials into the Environment.	LS	Similar	Similar	Similar	Similar
GEO-5: Damage a Pipeline due to Landslides, Mudflow, Lateral Spreading, Subsidence, Liquefaction, or Collapse as a Result of Locating the Project on a Geologic Unit or Soil that is Unstable	LS	Similar	Similar	Similar	Similar
GEO-6: Damage to Pipelines from Tsunamis	LS	Similar	Similar	Similar	Similar
Hazardous Materials					
HAZMAT-1: Release of Oil or Hazardous Materials and Contamination of Marine Environment due to Offshore Operations					
HAZMAT-2: Release of Oil or Hazardous Materials Spills Could Result in Soil Contamination due to Pipeline Construction Activities	LS	Similar	Similar	Similar	Similar
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	LS	Similar	Similar	Similar	Similar
HAZMAT-4: Potential Disturbance or Detonation of Unexploded Ordnance due to Onshore or Offshore Construction	LS	Similar	Similar	Similar	Similar

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
Land Use					
LU-1: Changes in Existing Land Use	LS	Similar	Similar	Similar	Similar
LU-2: Disruption to Adjacent Properties	LS	Similar	Similar	Similar	Similar
Noise and Vibration					
NOI-1: Noise Generated During the Installation of the FSRU and Offshore Pipelines					
NOI-2: Long-Term Noise Generated During FSRU Operations					
NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations					
NOI-4: Temporary Noise Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques					
NOI-5: Temporary Vibration Generated During Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities					
NOI-6: Noise Generated During Construction of the Onshore Pipeline	S	Greater	Less	Similar	Similar
NOI-7: Noise Generated by Traveling to the Construction Site	LS	Greater	Less	Similar	Similar
NOI-8: Noise Generated During Onshore Pipeline and Associated Facilities Operations	LS	Similar	Similar	Similar	Similar
Recreation					
REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing during Construction and Temporary Reductions of Fish Catch					
REC-2: Restricted Recreational Fishing Due to Area to be Avoided					
REC-3: Reduce the Quality of the Offshore Recreational Experience					

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
REC-4: Reduce the Recreational Experiences at or Restrict Access to Ormond Beach	LS	Similar	Similar	Similar	Similar
REC-5: Reduce or Restrict Access to Parks or Reduce User Enjoyment	LS	Similar	Similar	Similar	Similar
REC-6: Reduce or Restrict Access to Trails	LS	Similar	Similar	Similar	Similar
<b>Socioeconomics</b>					
SOCIO-1: Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas					
SOCIO -2: Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear					
SOCIO -3: Increase in Regional Fishing Pressure					
SOCIO -4: Small Increased Demand for Public Services	LS	Similar	Similar	Similar	Similar
<b>Transportation</b>					
TRANS-1: Temporary Increase in Traffic at LOS E Intersection	S	Similar	Similar	Similar	Similar
TRANS -2: Temporary Increase in Traffic	LS	Similar	Similar	Similar	Similar
TRANS -3: Temporary Traffic Lane Closures	LS	Similar	Similar	Similar	Similar
TRANS -4: Temporary Reduced On-Street Parking Access	LS	Similar	Similar	Similar	Similar
TRANS -5: Temporary Closure of Bike Routes	LS	Similar	Similar	Similar	Similar
TRANS -6: Damage to Roads During Construction	LS	Similar	Similar	Similar	Similar
<b>Water Quality and Sediments</b>					
WAT-1: Temporary Degradation of Offshore Water Quality due to Accidental Discharges					
WAT-2: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction					
WAT-3: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids	LS	Similar	Similar	Similar	Similar
WAT-4: Short-Term Increase in Erosion due to Construction Activities	LS	Similar	Similar	Similar	Similar

**Table 6.2-2 Comparison Matrix: Proposed Onshore Project Components and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Onshore)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project			
		Center Road Pipeline Alternative 1	Center Road Pipeline Alternative 2	Center Road Pipeline Alternative 3	Line 225 Pipeline Loop Alternative
WAT-5a: Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other Discharges that do not Meet Water Quality Standards					
WAT-5b: Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels.					
WAT-6: Temporary Degradation of Surface Water Quality During Maintenance Activities	LS	Similar	Similar	Similar	Similar
WAT-7: Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities	LS	Similar	Similar	Similar	Similar
<b>Environmental Justice</b>					
EJ-1: Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1	N/A	N/A	Similar	Similar	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
Public Safety				
PS-1. Potential Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier				
PS-2. Potential Release of LNG due to High Energy Marine Collision or Intentional Attack				
PS-3. Potential Release of Odorized Natural Gas due to Damage of Subsea Pipelines.	S	Similar	Similar	Similar
PS-4. Potential Release of Odorized Natural Gas due to Accidental Damage to Onshore Pipelines	S	Similar	Similar	Similar
PS-5. Increased Potential for Injury, Fatality, and Property Damage Due to Fire or Explosion in Areas with Less Robust Housing Construction and Outdoor Activity.				
Marine Traffic				
MT-1: Temporary Increase in Maritime Traffic during Installation of the Mooring System, FSRU Mooring, Offshore Pipeline Construction, and Shore Crossing Resulting in Increased Safety Risks	LS	Similar	Similar	Similar
MT-2: Long-Term Increase in Maritime Traffic during Offshore Operations				
MT-3: Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers				
MT-4: FSRU or LNG Carrier Accident Impact on Marine Traffic				
MT-5: Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction				
MT-6: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex				

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
Aesthetics				
AES-1: Alter Ocean Views from Onshore and Channel Islands Viewpoints				
AES-2: Alter Nighttime Ocean Views				
AES-3: Alter Views for Recreational Boaters				
AES-4: Alter Offshore Views from an Eligible State Scenic Highway				
AES-5: Alter Ocean Views During Construction	LS	Similar	Similar	Greater
AES-6: Substantial Damage to Onshore Scenic Resources Along a State Scenic Highway	LS	Similar	Less	Similar
Agriculture and Soils				
AGR-1: Temporary Loss of Agricultural Land	LS	Less	Greater	Greater
AGR-2: Permanent Conversion of Agricultural Land to Non-Agricultural Use	S	Similar	Greater	Greater
AGR-3: Topsoil Loss, Mixing, and/or Compaction	LS	Similar	Similar	Similar
AGR-4: Dust Deposition	LS	Similar	Similar	Similar
AGR-5: Loss of Tree Rows				
AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line				
AGR-7 Alt: Potential for Use of Agricultural Land for Staging Areas.	N/A	N/A	N/A	LS
AGR -8 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.	N/A	N/A	N/A	S
AGR -9 Alt: Potential for Use of Agricultural Land for Staging Areas.	N/A	N/A	LS	N/A
AGR -10 Alt: Permanent Conversion of Agricultural Land to Non-Agricultural Use.	N/A	N/A	S	N/A

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
Air Quality				
AIR-1: Net Emission Increases of Criteria Pollutants from Construction Activities in Designated Nonattainment Areas.	S	Similar	Similar	Similar
AIR 2: Violations of Ambient Air Quality Standards Caused by Particulate Emissions from Onshore Construction Activities	S	Similar	Similar	Similar
AIR-3: Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an Accidental LNG Spill or Pipeline Rupture	S	Similar	Similar	Similar
AIR-4: Emissions of Ozone Precursors from the FSRU				
AIR-5: Emissions of Ozone Precursors from Project Vessels Operating in California Coastal Waters	S	Similar	Similar	Similar
AIR-6: Emissions of Ozone Precursors from Project Construction Activities in Federal Waters				
AIR-7: Temporary Ambient Air Quality Impacts Caused by Air Pollutant Emissions from Onshore and Offshore Construction Activities	LS	Similar	Similar	Similar
AIR-8: Ambient Air Quality Impacts Caused by Air Pollutant Emissions from the FSRU and Project Vessels				
Biology, Marine				
BioMar-1: Burial of Sessile Marine Biota				
BioMar-2: Temporary Avoidance of the Area Due to Increased Turbidity from Construction Activities Offshore or Accidental HDB Release of Drilling Fluids				
BioMar-3: Temporary or Permanent Alteration or Disturbance of Marine Biota or Sensitive Habitats				

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
BioMar-4: Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations				
BioMar-5: Noise Disrupting Marine Mammal Behavior				
BioMar-6: Mortality and Morbidity of Marine Biota from Spills				
BioMar-7: Discharge of Bilge Water, Gray Water, and Deck Runoff				
BioMar-8: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals				
BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles				
BioMar-10: Entanglement of Marine Mammals and Turtles				
BioMar-11: Discharge of Ballast Water Potentially Containing Exotic Species				
BioMar-12: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species				
<b>Biology, Terrestrial</b>				
TerrBio-1: Temporary Increase in Sedimentation	LS	Similar	Similar	Similar
TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants	LS	Similar	Similar	Similar
TerrBio-3: Temporary or Permanent Changes to Wetlands or Waters of the U.S. during Construction	LS	Similar	Similar	Similar
TerrBio-4: Permanent Impact Caused by Noxious Weed Invasion	LS	Similar	Similar	Similar
TerrBio-5: Direct Permanent Impact on Wildlife Mortality	LS	Similar	Similar	Similar

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
Cultural				
CULTURAL-1: Maritime Archaeological Sites and Artifacts				
CULTURAL-2: Native American Value	LS	Similar	Similar	Similar
CULTURAL-3: Terrestrial Historic or Archaeological Resources	LS	Similar	Similar	Similar
Energy and Minerals				
ENE-1: Access to Oil and Gas Resources				
ENE-2: Create significant effects on local or regional energy supplies				
Geology				
GEO-1 Worsens Existing Unfavorable Geologic Conditions and/or Releases Toxic or Other Damaging Material into the Environment	LS	Similar	Similar	Similar
GEO-2 Cause a Loss of a Unique Paleontological Resource	LS	Similar	Similar	Similar
GEO-3: Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines, Ground Shaking, or Seismic-related Ground Failure	LS	Similar	Similar	Similar
GEO-4: Cause Severe Damage to Project Components as a Direct Consequence of a Geologic Event, Releasing Toxic or Other Damaging Materials into the Environment.	LS	Similar	Similar	Similar
GEO-5: Damage a Pipeline due to Landslides, Mudflow, Lateral Spreading, Subsidence, Liquefaction, or Collapse as a Result of Locating the Project on a Geologic Unit or Soil that is Unstable	LS	Similar	Similar	Similar
GEO-6: Damage to Pipelines from Tsunamis	LS	Similar	Similar	Similar

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
Hazardous Materials				
HAZMAT-1: Release of Oil or Hazardous Materials and Contamination of Marine Environment due to Offshore Operations	LS	Similar	Similar	Similar
HAZMAT-2: Release of Oil or Hazardous Materials Spills Could Result in Soil Contamination due to Pipeline Construction Activities	LS	Similar	Similar	Similar
HAZMAT-3: Release of Existing Contaminants from Sediments, Soils, or Groundwater	LS	Similar	Similar	Similar
HAZMAT-4: Potential Disturbance or Detonation of Unexploded Ordnance due to Onshore or Offshore Construction	LS	Similar	Similar	Similar
Land Use				
LU-1: Changes in Existing Land Use	LS	Similar	Similar	Similar
LU-2: Disruption to Adjacent Properties	LS	Similar	Less	Similar
Noise and Vibration				
NOI-1: Noise Generated During the Installation of the FSRU and Offshore Pipelines				
NOI-2: Long-Term Noise Generated During FSRU Operations				
NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations				
NOI-4: Temporary Noise Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques	S	Less	Greater	Greater
NOI-5: Temporary Vibration Generated During Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities	S	Less	Greater	Greater
NOI-6: Noise Generated During Construction of the Onshore Pipeline	S	Greater	Less	Less

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
NOI-7: Noise Generated by Traveling to the Construction Site	LS	Similar	Similar	Similar
NOI-8: Noise Generated During Onshore Pipeline and Associated Facilities Operations	LS	Similar	Similar	Similar
<b>Recreation</b>				
REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing during Construction and Temporary Reductions of Fish Catch				
REC-2: Restricted Recreational Fishing Due to Area to be Avoided				
REC-3: Reduce the Quality of the Offshore Recreational Experience				
REC-4: Reduce the Recreational Experiences at or Restrict Access to Ormond Beach	LS	Similar	Less	Similar
REC-5: Reduce or Restrict Access to Parks or Reduce User Enjoyment	LS	Similar	Less	Similar
REC-6: Reduce or Restrict Access to Trails				
<b>Socioeconomics</b>				
SOCIO-1: Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas				
SOCIO -2: Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear				
SOCIO -3: Increase in Regional Fishing Pressure				
SOCIO -4: Small Increased Demand for Public Services	LS	Similar	Similar	Similar
<b>Transportation</b>				
TRANS-1: Temporary Increase in Traffic at LOS E Intersection				
TRANS -2: Temporary Increase in Traffic	LS	Similar	Similar	Similar

**Table 6.2-3 Comparison Matrix: Proposed Shore Crossing and Alternatives**

*Note:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact; shading indicates no impact for this Project component

Issue Area and Impacts (Shore Crossing)	Proposed Project Impacts After Mitigation	Impacts Compared to the Proposed Project		
		Mandalay Shore Crossing Alternative	Point Mugu Shore Crossing	Arnold Road Shore Crossing
TRANS -3: Temporary Traffic Lane Closures	LS	Similar	Similar	Similar
TRANS -4: Temporary Reduced On-Street Parking Access				
TRANS -5: Temporary Closure of Bike Routes				
TRANS -6: Damage to Roads During Construction	LS	Similar	Similar	Similar
<b>Water Quality and Sediments</b>				
WAT-1: Temporary Degradation of Offshore Water Quality due to Accidental Discharges	LS	Similar	Similar	Similar
WAT-2: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction				
WAT-3: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids	LS	Similar	Similar	Similar
WAT-4: Short-Term Increase in Erosion due to Construction Activities	LS	Similar	Similar	Similar
WAT-5a: Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other Discharges that do Not Meet Water Quality Standards				
WAT-5b: Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels.				
WAT-6: Temporary Degradation of Surface Water Quality During Maintenance Activities	LS	Similar	Similar	Similar
WAT-7: Degradation of Surface Water Quality due to Erosion caused by Regular Maintenance Activities	LS	Similar	Similar	Similar
<b>Environmental Justice</b>				
EJ-1: Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1	N/A	N/A	N/A	N/A

*Notes:* S = Significant; LS = Less Than Significant; N/A = not applicable or no impact.